The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 1184—Vol. XXVIII. LONDON, SATURDAY, MAY 1, 1858. {STAMPED.....SIXPENCE. {UNSTAMPED..FIVEPENCE.

R. JAMES CROFTS, MINING AND SHAREBROKER,
No. 1, FINCH LANE, LONDON (established 14 years), TRANSACTS every BUSINESS in MINING SHARES, but, not being a DEALER, BUYS and SELLS orders confided to him.

CROFTS recommends immediate attention on the part of buyers to the following in connection with their late and present prices. Such an opportunity as the presents for investing in CHEAP SHARES probably never occurred, and may before it will occur again :—

DIVIDEND MINES.

idence.	North Roskear.	Carn Brea.
awny.	Calstock Consols.	Rosewarne Consols.
of Towy.	Alfred Consols.	Mary Ann.
Consols.	Roscean.	Wheal Wrey.
dsfoot.	Bedford United.	Fowey Consols.
el Margaret.	Drake Walls.	Botallack.
Dong.	North, West, and East	Condurrow.
ridge Consols.	Basset, and Wh. Basset.	South Frances.
ubler and St. Aubyn.	Hingston Down.	Wheal Kitty (Lelant).

NON-DIVIDEND.

Mawr Pool.	Hoimbush.	Worthing.
Mine.	*Castell (Limited).	Kelly Bray.
erine and Jane.	*Porkellis United.	Ludcott.
el Edward.	North Tavy.	Wheal Grenville.
Wheal Russell.	Virtuous Lady.	Rosewarne and Herland.
Bertha.	East Alfred Consols.	Tehidy.
t Wheal Alfred.	*Pedn-an-drea.	South Condurrow.
noor.	Wheal Harriett.	Pendeen Consols.
Tor.	Great Hewas.	North Trelawny.
elyan.	*Wheal Zion.	*Lelant Consols.
uth.	*Wheal Arthur.	*Bryntail.
el Hender.	*Wheal Lovel.	

ral of the above mines are almost at either nominal or very low prices, amongst are those marked *, and are, consequently, deserving of special attention. The der offer large profits at present prices, either in the shape of an advance in price, dividends, or both.

Bankers: The Commercial Bank of London, Lothbury.

R. JAMES LANE, No. 29, THREADNEEDLE STREET,
MINING SHARE DEALER.

R SALE, AT NETT :—5 Kitty (Lelant), £10½ ; 20 Treweatha, 17s. 6d. ; 10 East Tamar, 14s. ; 10 Wheal Wrey, £3¾ ; 20 North Downs ; 10 South reas ; 5 North Frances ; 1 East Basset ; 10 Par Consols, £18. And is a BUYER uller, 2 South Frances, 1 Basset, 20 Clijah and Wentworth ; 15 Tamar, £1 ; for delivery of transfer.—Apply to J. B. BRENCHLEY, 11, Royal Exchange, London.

TER WATSON'S WEEKLY MINING CIRCULAR, AND SHARE LIST.

difficulties which shareholders and the mining public have encountered in seeking prices of mine shares, &c., daily or weekly, has induced me, at the suggestion of of my friends, to publish a "WEEKLY MINING CIRCULAR, AND SHARE which will be published every Friday (in time for post).

se who desire to have copies regularly sent them, will be supplied for an annual ription of £1 1s., or 6d. per copy. PETER WATSON.

Threadneedle-street, London, E.C., April 30, 1858.

N.B.—Mining captains specially appointed to inspect and report on mines.

IVIDEND MINE SHARES FOR SALE.—

10 Alfred Consols.	2 Margaret.	100 Vale of Towy, 24s.
arnyorth, £5.	5 North Basset.	10 West Basset.
yron Consols.	5 Par Consols, £18¼.	2 West Wheal Seton.
e Dong, £1s.	5 Providence.	10 Wheal Charlotte.
ward.	1 South Caradon, £405.	2 Wheal Treiawny.
ambl. and St. Aubyn.	1 South Frances, £220.	5 Wheal Wrey, £3⅞.
ary Ann.	100 Sortridge Cons., 25s. 3d.	1 Wheal Basset.
	5 St. Ive's Consols.	

NON-DIVIDEND.

uller and Basset.	20 Great Busy, £5.	20 Pedn-andrea.
ull and Lanarth.	100 Great Hewas, 17s.	100 Redmoor.
uller and Bertha, 3s.	10 Great Alfred, £5¼.	50 St. Austell Cons., £1¾.
ddford Consols.	50 Gwydyr Consols.	20 Swanpool.
atherine and Jane, 10s.	20 Harriett, 14s. 6d.	22 South Bog.
(call of 2s. 6d. paid).	10 Hingston Down.	50 South Cuddra.
ale (£1 paid), 14s.	10 Kelly Bray, 26s. 6d.	20 Trelyon.
ev. Gt. Elizabeth, 38s.	50 Lady Bertha, 21s.	20 Tolvaiden, £6⅞.
ast Rosewarne.	10 Margery.	30 West Par, 15s.
ast Basset.	20 North Robert, £4¼.	5 West Rosewarne.
ast Providence, 14s. 6d.	10 North Levant.	50 Willow Bank.
(call of 4s. paid).	2 Penhaldarva.	140 Wheal Zion, 4s. 6d.
ast Russell.	20 Pendeen, £3⅛.	5 Wheal Grenville, 27s.

arner. MR. LELEAN, 4, Cushion-court, Old Broad-street, London.

SING OFFICES, 8, FINCH LANE (Next Door to the City Bank), LONDON.

R. JEHU HITCHINS, in thanking his numerous clients for the confidence and support he has received from them for the past 35 years, as INTOR and MANAGER OF MINES, begs to announce that, with the view of meeting shes of several of his influential mining friends, he has ESTABLISHED MINING TES in the above-named central position, and that, in addition to the appointments eld by him, he is ready to UNDERTAKE, separately or combined, the office of AGER, PURSER, or SECRETARY of any mining company desirous of engaging vices.

Hitchins flatters himself that the many years he has devoted exclusively to the of mining in all its branches, both at home and abroad, will not only be a sufficient tee of his fitness to undertake any appointment that may be offered him, but also reat advantage to his employers.

Hitchins, having established confidental mining correspondents in all parts of the m, will be prepared at any time to advise upon the position and prospects, and, if ed, to make a personal inspection of any mine.

Mining accounts examined and audited upon the usual terms.

R. JOHN RISLEY, MINE SHAREBROKER,
12, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

following progressive shares at the present prices will prove safe and profitable to ists seeking investment :—Pendeen, East Basset, North Downs, East Russell, and f Towy.

R. E. GOMPERS HAS BUSINESS TO TRANSACT IN—

20 Edward, £5⅜.	50 East Russell, £6¾.	100 Sortridge Consols, £1½.
ingston Down, £5½.	200 Worthing, 3s.	20 Great Alfred, £5¼.
rodsfoot, £9.	10 Treweatha, 15s.	100 Vale of Towy, 22s. 6d.
yon and Court., 5s.	1 Basset, £210.	50 Dale, 15s.
uth Caradon, £397½.	1 Copper Hill.	20 Gawton, 12s. 6d.
dmoor, 6s.	50 Bertha, 21s.	Hawkmoor, 10s.

Crown-court, Threadneedle-street.

MINING OFFICES, 32, POULTRY, LONDON, E.C.

ENRY GOULD SHARP, MINE SHAREBROKER,
calls the attention of his friends and the public to the present depressed state of are Market, which now offers unusual facilities for investing in several mines, the in which are certain to advance in price.

DIVIDEND MINE SHARES FOR SALE.

fred Consols, £11¼.	5 Par Consols, £18½.	3 West Basset, £23¼.
oscean, £67½.	2 Providence, £67¼.	1 Wheal Basset, £225.
otallack, £175.	50 Sortridge Consols, 26s.	1 Wheal Buller, £310.
rn Brea, £55.	1 South Caradon, £400.	20 Wheal Edward, £6½.
rake Walls, £1⅝.	2 South Frances, £225.	10 Wh. Kitty (Lel.), £11½.
reat Sou. Tolgus, £15.	25 St. Day United, 13s. 6d.	2 Wheal Margeret, £45.
ingston Down, £5¼.	10 Tincroft, £4⅛.	3 Wh. Mary Ann, £43¾.
orth Basset, £12.	50 Vale of Towy, 23s. 9d.	1 Wh. Trelawny, £25¼.

Every information will be given to parties wishing to invest small or large sums ey. All buying and selling orders will receive prompt attention.

PROGRESSIVE MINE SHARES FOR SALE.

rvannall, £2½.	40 Kelly Bray, 25s. 6d.	2 South Basset, £7¼.
atherine and Jane, 9s.	50 Lady Bertha, 21s. 6d.	20 South Carn Brea, £4⅝.
ale (£1 paid), 14s.	5 North Frances, £8¼.	10 Tolvadden, £6⅞.
ast Basset, £105.	10 North Levant, £3½.	30 Virtuous Lady, 17s. 9d.
ast Rosewarne, 10s.	50 North Tavy, 31s.	50 West Grenville, 5s. 6d.
ast Wh. Russell, £6⅞.	10 Nor. Wh. Robert, £4¼.	30 Wheal Grenville, £1⅜.
t. Wh. Alfred, £5⅜.	25 Pedn-an-drea, 15s.	50 Wheal Harriett, 13s. 6d.
awkmoor, 15s.	50 Redmoor, 5s. 6d.	5 Wheal Margery, £11⅞.

Commission on all buying and selling transactions, 1¼ per cent.

Bankers: London and Westminster Bank, Lothbury.

R. GEORGE BUDGE, of 4, BIRCHIN LANE, CORNHILL,
LONDON, has SHARES FOR SALE at the following prices :—

ast Basset, £105.	100 Vale of Towy, 22s. 9d.	10 Wheal Margery, £9¾.
ast Rosewarne, 15s.	2 West Caradon, £105.	15 North Frances, £7⅞.
ingston Down, £5½.	100 Wheal Harriett, 13s.	20 Great Wheal Alfred.
uth Caradon, £400.	50 Wheal Grenville, 27s.	25 Gawton, 14s.
ndeen, £4⅛.	200 West Grenville.	15 East Russell, £6.
mar Consols, 20s. 6d.	1 Wheal Margaret, £47½.	50 North Downs.

G E O R G E M O O R E,
DEALER IN MINING SHARES.
1, CROWN COURT, THREADNEEDLE STREET.

GEORGE MOORE will SELL the following SHARES, or any part, at quoted prices, FREE OF ANY COMMISSION :—

DIVIDEND.

5 Alfred Consols.	25 Sortridge Cons., 26s. 3d.	25 Treweatha, 15s. 9d.
20 Bedford Consols, £6¼.	1 South Caradon, £402½.	25 Vale of Towy, 22s. 9d.
20 Drake Walls, 28s. 6d.	1 South Frances, £222½.	10 Wheal Arthur, £4⅞.
10 Hingston Down, £5⅛.	25 St. Day Unit., 13s. 9d	10 Wh. Edward, £5 11s. 3d.
5 North Basset, £10¾.	50 Tamar Consols, 20s. 3d.	1 Wh. Trelawny, £24½.
5 Par Consols, £18⅜.	20 Tincroft, £3 16s. 3d.	

NON-DIVIDEND.

20 Dale Mine, 17s. 6d.	25 East Tamar, 14s. 6d.	25 Lady Bertha, 22s. 9d.
1 East Basset, £101¼.	5 East Russell, £6 13s. 9d.	10 North Robert, £4¼.
5 E. Gunnis Lake, £2½.	10 Great Alfred, £5⅜.	5 Porkellis United, £3½.
	25 Kelly Bray, 29s. 9d.	

FOR SALE, for immediate cash, 15 Great Wheal Busy, and 20 Penstruthal ; a considerable reduction from quoted prices will be taken.

PURCHASERS of undoubted respectability can register transfers and receive CERTIFICATES of same previous to PAYMENT.

In any business that GEORGE MOORE is favoured with, in which he is the buyer, he will give CASH ON RECEIPT OF TRANSFER.

MESSRS. J. J. REYNOLDS AND SON,
No. 1, ROYAL EXCHANGE BUILDINGS, LONDON, E.C., ENGLISH AND FOREIGN STOCK, RAILWAY, AND MINING SHAREBROKERS, beg to inform their friends and the public that the present time is a FAVOURABLE OPPORTUNITY for INVESTMENT in many undertakings of a substantial character, paying dividends worthy the attention of the capitalist.

Every information can be obtained at their offices, which their practical experience enables them to give, not only of mines and other properties of established value, but of those that are not.

Messrs. J. J. REYNOLDS and SON, having been so frequently called upon by their friends and connections to procure for them loans on the deposit of available securities, have now entered into arrangements to enable them to negociate transactions of this kinds, on terms very advantageous to their clients. They have at present from £50,000 to £100,000 to employ in this manner, and shall be happy to be useful to any of their connections requiring assistance.

MESSRS. POWELL AND COOKE,
DEALERS IN BRITISH MINING SHARES.
8, HERCULES CHAMBERS, OLD BROAD STREET, LONDON.

Information given as to price, &c., of shares, either by letter, or on personal application.—Dated April 30, 1858.

JAMES HERRON has FOR SALE the following SHARES, at the prices quoted, and FREE OF COMMISSION :—

3 Alfred Consols, £11.	5 Great Alfred, £5 8s. 9d.	10 South Wheal Ellen.
5 Bryntail, 27s. 6d.	20 Garreg, 8s. 6d., all calls paid.	20 Tamar Consols, 20s. 9d.
10 Boiling Well, £1⅜.	10 Grenville, 32s. 6d.	5 Tincroft, £3 17s. 6d.
50 Catherine and Jane, 8s.	10 Great Hewas, 17s. 9d.	10 Treweatha, 16s. 9d.
1 Cefn Brwyno, £42.	5 Hingston Down.	1 Trelawny, £24½.
20 Cwm Sebon, 25s.	15 Holmbush, 35s.	10 Trevelyan, 25s. 6d., all calls paid.
20 Chancellorsville, 1s. 9d.	3 Kitty (Lelant), £12¼	20 Vale of Towy, 25s. 6d.
30 College Mines, 2s. 9d.	10 Ludcott, 24s. 9d.	20 Wheal Cupid, 7s. 9d.
10 Drake Walls, 29s. 9d.	10 Lewis, £2 2s.	1 Wheal Margaret, £57½.
1 Devon Great Con., £475.	29 Lady Bertha, 21s. 9d.	1 Wh. Mary Ann, £44½.
20 Dale, 18s. 9d.	20 North Trelawny.	5 Wheal Edward, £5⅜.
1 Ding Dong, £16½.	20 North Downs, 39s.	1 West Basset, £23¼.
5 East Tamar.	5 N. Frances, £7 18s. 9d.	50 West Grenville, 6s. 9d.
5 East Russell, £5 18s. 9d.	20 Pembr. and E. Crinnis.	3 West Sharp Tor, £35½.
10 East Margaret, £3⅞.	10 Pendeen Consols.	5 Wh. Margery. £10½.
20 East Rosewarne, 8s. 9d., ex call.	1 Rosewarne, £25½.	50 Willow Bank, 10s. 9d.
5 East Wheal Rose, £6⅞.	20 Redmoor, 12s. 6d.	10 W. Providence, 27s. 9d.
1 Grambl. and St. Aubyn, £117½.	20 South Bog.	10 Wheal Harriett.
5 Great Wh. Busy, £5½.	25 Son. Condurrow, 3s. 3d.	10 West Par, 14s. 6d.
	5 Stray Park, £6½.	

And is a BUYER of the following, or any part :—70 Lewis, 39s. ; 300 West Grenville, 6s. 3d. ; 100 North Downs, 35s. ; 30 Holmbush, 31s. 6d.

2, Adam's-court, Old Broad-street, London, April 30, 1858.

MESSRS. VIVIAN AND REYNOLDS, MINE AGENTS,
68, OLD BROAD STREET, LONDON, E.C.

MESSRS. VIVIAN and REYNOLDS are enabled, through the long experience of Mr. W. C. Vivian as an underground agent and manager of mines in Cornwall, and in various foreign countries, to afford information on most important mining districts ; and to inspect and report on mines. They are also enabled, by the several years' acquaintance of Mr. J. J. Reynolds, jun., with the transaction of the London share market, to obtain every advantage for those who may want either to buy or sell mining or any other description of stock.

MESSRS VIVIAN and REYNOLDS have daily information from the principal seats of mining, which is at the service of those who may honour them with their confidence.

MESSRS. VIVIAN and REYNOLDS have FOR SALE—

1 Buller, £310.	5 Alfred Consols, £11.	50 St. Day United, 15s.
1 South Frances, £225.	5 Great Alfred, £5⅜.	5 North Frances, £7.
1 Wheal Basset, £217½.	5 Wrey, £5½.	3 North Roskear, £25.
5 Tincroft, £3¾.	5 North Crofty, £4¾.	50 Sortridge, 30s.
2 Par Consols, 18½.	50 Dale, 17s. 6d.	20 Vale of Towy, 24s.
1 Wheal Margaret, £55.	10 Unity, £1¾.	25 North Dolcoath, £1¼.
1 Carn Brea, £483¾.	20 Great Vor, £1⅞.	

MR. WILLIAM MOORE, STOCK AND SHAREDEALER,
11, HERCULES CHAMBERS, OLD BROAD STREET.
N.B. Business transacted in every description of stock and shares.

MR. R. H. M. JACKMAN, MINING AND SHAREBROKER,
2, ADAM'S COURT, OLD BROAD STREET, has BUSINESS in most of the MINES named on the last page of this Journal ; and will be happy to receive any BUYING or SELLING ORDERS, which will be punctually attended to.
Commission 1¼ per cent.

MR. R. LINTHORNE, ENGLISH AND FOREIGN MINING
AGENT, 3, ADAM'S COURT, OLD BROAD STREET, LONDON.
N.B. Business transacted in every description of stock and shares.

MR. BISHOP, MINING BROKER,
36, LOMBARD STREET, CITY.
Shares bought and sold, and advice given as to investment.
A few shares in a limited company, will pay to a large per cent. for purchasing.

THOMAS ROACH, MINING AGENT,
37, OLD BROAD STREET, E.C.

Sixteen years' experience in practical mining, and (subsequently) six years' extensive commission business, enable the ADVERTISER confidently to RENEW the OFFER OF HIS SERVICES to those interested in MINING. He is invariably in a position to BUY and SELL in *bona fide* SHARES ; and continues to attend meetings of mining companies, or the audit of accounts, for friends non-resident in the metropolis. Mines inspected, and reports furnished, by competent agents, at short notice, and on reasonable terms.

MR. H. HUXHAM, COLLIERY VIEWER AND MINING ENGINEER, UNDERTAKES the SURVEYING, VALUING, or AGENCY of MINERAL PROPERTY, the WINNING, WORKING, or VIEWING of COLLIERIES, &c., on moderate terms ; and begs to assure those who may favour him with their commands that all business entrusted to his charge shall receive prompt attention, and be executed with the utmost fidelity and care. References and testimonials of the highest character.

Mr. H. HUXHAM has room for TWO ADDITIONAL ARTICLED PUPILS, who would have an excellent opportunity of attaining a thorough knowledge of practical and theoretical mining engineering.—Cwm Rhondda, Pont-y-pridd.

THE MIDLAND IRON COMPANY, ROTHERHAM, YORK-
SHIRE, MANUFACTURERS OF RAILWAY TYRES AND AXLES FOR LOCOMOTIVE ENGINES, CARRIAGE AND WAGON WHEELS. From the tests to which this iron has been submitted by engineers and railway companies during several years, its superior quality has been generally acknowledged, and can be unhesitatingly affirmed.

MESSRS. A. J. HUTCHINGS AND CO.'S
PATENT IMPROVED WIRE ROPE.
SOLE MAKERS TO THE
LORDS OF THE ADMIRALTY, THE FRENCH AND TURKISH GOVERNMENTS,
And the principal Colliery Proprietors throughout the kingdom.
MANUFACTORY, MILL WALL, POPLAR, LONDON.

ROUND and FLAT ROPES of every description, suitable for mining operations or other purposes, GALVANISED or UNGALVANISED, MANUFACTURED upon the newest and most improved machinery, ensuring greater pliability, durability, and strength ; and is admitted by the principal coal proprietors to be far superior to any other kind of wire-rope. The superiority of these ropes over hempen ones, in point of strength, lightness, durability, and cost, is admitted by all who have tried them.

GUIDE ROPES, SIGNAL CORD, LIGHTNING CONDUCTORS, &c.

MR. T. P. THOMAS, MINING AUCTIONEER,
2, CROWN COURT, THREADNEEDLE STREET, LONDON.

TO CAPITALISTS.—Those who seek safe and profitable investment, free from risk, should act only upon the soundest information. The market prices of the day are for the most part governed by the supply and demand, and the operations of speculators, without reference to the soundness or merits of the undertaking. J. R. PIKE feels confident that mines afford a wider range for profit than any other securities. J. R. Pike could name many that are free from debt, have large reserves, and pay dividends bi-monthly, varying from £15 to £30 per cent. per annum. Instances frequently occur of young mines rising in value 500 to 1000 per cent. ; but these kind of securities more than any other should be purchased only upon the most reliable information, because there are shares upon the market of schemes called mines quoted at fictitious prices, intrinsically worthless.

J. R. PIKE devotes special attention to mines, therefore can afford every information to intending investors. Purchases and sales effected upon the best possible terms.

3, Pinner's-court, Old Broad-street, London.

MR. T. E. W. THOMAS, MINING AGENT AND GENERAL
MINING-SHARE DEALER.
11, DALE STREET LIVERPOOL.

MR. J. HOLLOW'S GENERAL MINING AGENCY OFFICES,
HAYLE, CORNWALL ; AND AT
1, CROWN COURT, OLD BROAD STREET, LONDON, E.C.

MR. FRANCIS RIDGMAN, MINING SHARE DEALER,
TAVISTOCK, DEVON.

TO CAPITALISTS.—RELIABLE INFORMATION may be obtained on application to the undersigned, in respect of MISCELLANEOUS SECURITIES generally. BANKS, INSURANCE SHARES, LAND COMPANIES, MINES (British and Foreign), RAILWAYS, FOREIGN STOCKS, and the PUBLIC FUNDS BOUGHT and SOLD at the closest market price, and at moderate commission. References given and required. JOHN BATTERS, Stock and Sharebroker.

26, Throgmorton-street, London, E.C.

MR. E. B. PALMER, MINING SHARE BROKER,
STOCK EXCHANGE, CHESTERFIELD, is prepared to ADVISE as to INVESTMENTS in DERBYSHIRE MINES, and issue SPECIAL REPORTS of their progress on reasonable terms.

JAMES H. COCK, MINE SHAREBROKER, GENERAL
COMMISSION AGENT, AND ACCOUNTANT, REDRUTH, CORNWALL.

J. H. COCK embraces the present opportunity of thanking his friends and the public generally for the amount of confidence and support he has received from them during the past year, and hopes by continued energy, promptness, and strict attention to all business entrusted to his care, to merit a continuance of the same.

Mines inspected and reported on, and every information furnished.

ROBERTSON AND BUTT, METAL BROKERS AND AGENTS,
15, UNION COURT, OLD BROAD STREET, E.C.
Business transacted in Railway, Banking, Mining, and other securities.

JOHN GLEDHILL AND CO., MINE AGENTS, SHARE
BROKERS, AND GENERAL DEALERS
MINING RECORD OFFICE, 12, SOUTH PARADE, LEEDS.

Mines well selected are the best investments, paying from 15 to 30 per cent. on the outlay. They have to OFFER SHARES in most of the DIVIDEND and PROGRESSIVE MINES, and are ready to give every information relative to all mining matters.

Dated April 23, 1858.

FIFTEEN to TWENTY, and even TWENTY-FIVE PER CENT. PER ANNUM, upon current value of shares, in CORNISH TIN and COPPER MINES.
Dividends payable two-monthly or quarterly.

MESSRS. R. TREDINNICK AND CO., MINING ENGINEERS,
SEND their SELECTED LIST of SOUND PROGRESSIVE and DIVIDEND SHARES upon the receipt of a fee of one guinea.

Review of Cornish and Devon Mining Enterprise, 5s. per copy.

Maps per post of the Buller and Basset, Great Vor, Alfred Consols, the Providence and Margaret, South Caradon, and the Devon Great Consols Districts, 2s. 6d. each.

Cornish Mines, well selected, pay better than any other description of securities, are freer from risks, and entail less responsibilities than banks and other joint-stock companies. Shares bought and sold on commission of 2½ per cent.

Money advanced at 10 per cent. annually, for short or long periods, upon approved Mining shares.—4, Austinfriars, Old Broad-street, London, E.C.

WEST END MINE AND QUARRY OFFICES, 5, WATERLOO PLACE, PALL MALL.

MESSRS. BRUNTON AND CO., ENGINEERS AND MINERAL SURVEYORS, undertake the MANAGEMENT and WORKING OF MINES, QUARRIES, &c., and CONDUCT the LONDON AGENCY of all MINERAL PROPERTIES in their offices with system, economy, and regularity.

Messrs. BRUNTON and Co. beg to inform proprietors of mines, &c., that the business of these properties is carried on in their office upon the following principles, viz. :—

Accounts systematically and closely made up.

Statments in detail, and clear summaries of finance and expenditure.

Entire and impartial openness of books, reports, and documents, to all shareholders, for perusal or extract.

Immediate communication of any important occurrence to the shareholders.

MINERAL PROPERTIES SURVEYED, and ESTIMATES OF MACHINERY, PLANT, and COSTS OF WORKING FURNISHED.

INVESTMENT.—Messrs. FULLER AND CO., No. 51, THREAD-NEEDLE STREET, LONDON, TRANSACT BUSINESS in BRITISH and FOREIGN STOCKS, BANKING, MINING, and RAILWAY SECURITIES ; many of which pay from 15 to 20 per cent. Those of the progressive character frequently rising above 100 per cent. The following shares present every prospect of success, and are worth immediate attention :—

Dale Lead (Limited).	Hingston Down.	West Snailbeach.
Craddock Moor.	Lady Bertha.	South Caradon.
Ballyvirgin.	Lady Eliza.	South Lady Bertha.
Devon Burra Burra.	Ribden Copper (Limited).	United Mines, Tavistock.

Office Hours from Ten till Four.

MR. HENRY WILLS, SHARE BROKER, PLYMOUTH, is a SELLER of Tolvadden, Providence, Sydney ; also, Calstock Consols, at 4¼. Is a BUYER of East Basset ; can give 15s. per share for 100 North Tavy.

TO BORERS.—WANTED, TENDERS for BORING for COALS.
Address, by letter, to "A. B.," Post-office, Flint.

ROBERT MUSHET'S CAST-STEEL, 3d. per lb., or £28 per ton, suited for all ENGINEERING and MINING PURPOSES, and equal in quality to that melted from the first marks of Swedish iron.—Apply to ROBT. MUSHET, Coleford.

N.B. Samples sent to parties desirous of testing the steel.

TO SHAREHOLDERS IN PUBLIC AND PRIVATE COMPANIES.

THE GENERAL AUCTION COMPANY (LIMITED) intend to HOLD PERIODICAL SALES OF SHARES, of which due notice will be given, at Garraway's Coffee House. By this means offering to the public the facility of realising by open competition, every description of shares, whether negociable in the Stock Exchange or not.

Persons wishing to dispose of securities of this character, are invited to send full particulars to the manager of the company, 23, New Bridge-street, Blackfriars, E.C.

MINES.—The PROPRIETOR of a very extensive PROPERTY in NORTH WALES is prepared immediately to GRANT a SETT or SETTS, with the usual reservations, to a COMPANY of RESPONSIBLE ADVENTURERS. The property is situate in a district abounding in minerals, has been surveyed by an experienced mining engineer, and most favourably reported on, as containing undoubted indications of the existence of lodes of LEAD and COPPER ORE. Portions of the ground have been opened, which can be personally inspected ; and the report, with the plan annexed, seen, or a copy of the report can be furnished, on application to H. T. RICHARDSON, Esq., Post-office, Bala, North Wales ; or to Mr. JAS. RULE, mine agent, Fore-street, Camborne, Cornwall. References required.

TO COLLIERY PROPRIETORS AND OTHERS.—
FOR SALE, ONE 80-in. cylinder PUMPING ENGINE, 10 ft. stroke in cylinder, and 9 ft. in shaft, with four boilers about 45 tons, balance-bob, first piece of rod, &c. ONE 33-in. cylinder PUMPING ENGINE, 7 ft. stroke, equal beam, with a boiler about 9 tons, nearly new, balance-bob, first piece of rod, &c. A PUMPING ENGINE, on Sims's patent combined principle, 22 and 40-in. cylinders, 8 ft. stroke, equal beam, first piece of rod, &c. The above are all within four miles of a port.—For further particulars, apply to Mr. THOMAS FIELD, 2, Crown-court, Threadneedle-street, London, E.C.

MURCHISON'S QUARTERLY REVIEW OF BRITISH MINING IS NOW READY. This number contains, as usual, the POSITION and PROSPECTS of the principal DIVIDEND and PROGRESSIVE MINES, and also PLANS of the UNDERGROUND WORKINGS of several of the more important concerns, and some SPECIAL REPORTS. Price 1s. At No. 117, Bishopsgate-street Within, London.

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PATENT METALLIC PACKING, 4s. per lb. [leather.
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Works of all sizes, from 10 lights to 500 lights, estimated for. The construction is so simple, that the works can be entrusted to the management of an ordinary labourer or servant. For LIGHTING CORNISH MINES these works are well adapted, and at a cost of one-half below the usual outlay.—Apply to

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warranted good by the maker, shave well for twelve months without grinding.

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	Fiddle Pat.	Double Thread.	King's Pat.	Lily Pat.
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12 Dessert Spoons, best quality	1 7 0	2 0 0	2 4 0	2 14 0
12 Tea Spoons, best quality	0 16 0	1 4 0	1 7 0	1 16 0
2 Sauce Ladles, best quality	0 8 0	0 10 0	0 11 0	0 13 0
1 Gravy Spoon, best quality	0 7 0	0 10 6	0 11 0	0 13 0
4 Salt Spoons (gilt bowls), best qu.	0 6 8	0 10 0	0 12 0	0 14 0
1 Mustard Spoon, best quality	0 1 8	0 2 6	0 3 0	0 3 6
1 Pair Sugar Tongs, best quality.	0 3 6	0 5 6	0 6 0	0 7 0
1 Pair Fish Carvers, best quality.	1 0 0	1 10 0	1 14 0	1 18 0
1 Butter Knife, best quality	0 3 0	0 5 0	0 6 0	0 7 0
1 Soup Ladle, best quality	0 12 0	0 16 0	0 17 6	1 0 0
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Complete Service	£10 13 10	£15 16 6	£17 13 6	£21 4 6

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One Set of Four Corner Dishes (forming eight dishes), £3 8s.; One Set of Four Dish Covers (one 20 in., one 18 in., and two 14 in.), £10 10s.; Cruet Frame (four glass), 24s.; Full Size Tea and Coffee Service, £9 10s. A Costly Book of Engravings, with prices attached, may be had on application.

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Two dozen Full Size Table Knives, Ivory Handles	£2 4 0	£3 6 0	£4 12 0
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Messrs. MAPPIN'S table knives still maintain their unrivalled superiority; all their blades, being their own Sheffield manufacture, are of the very first quality, with secure ivory handles, which do not come loose in hot water, and the difference in price is occasioned solely by the superior quality and thickness of the ivory handles.

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Edited by HENRY AYRES, Author of *Ayre's Financial Register.*

In consequence of the remarkable changes which have occurred in the financial world during the last few years, the proprietor of the *Bankers' Circular and Finance Gazette* has determined upon issuing a publication at more frequent intervals, devoted to the special subjects of finance and commerce, and to place it within the reach of all persons engaged in pursuits of that nature. It is, therefore, proposed to issue, from the 5th day of January, 1858, on the Wednesday and Saturday in each week, the MONETARY TIMES, and to discontinue the present weekly publication. The subjects embraced in this journal will comprise all the principal matters relative to British and Foreign Finance, Banking, and Commerce, the state of the money market, with a variety of Statistical Details in reference to the same, as well as Critical Reviews of Parliamentary Papers and other Financial Documents.

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Capital £30,000, in 6000 shares of £5 each.—Deposit £1 per share.

Incorporated 20th February, 1858.

NO APPLICATIONS FOR SHARES will be RECEIVED AFTER TUESDAY, the 4th of May next.

Prospectuses and forms of application for shares may be obtained from Messrs. TOWNSEND, RIDLEY, and JACKSON, solicitors, Liverpool; Messrs. DRINKWATER and LOWE, share-brokers, Liverpool; or at the registered office of the company, No. 24, Derby-buildings, Fenwick-street, Liverpool, where samples may be seen, and every information obtained.

THE CORNWALL GREAT CONSOLIDATED LEAD AND COPPER MINING COMPANY.

£2 Shares (Limited), at Five Shillings Discount.

TWENTY-FIVE of these SHARES TO BE SOLD, at Thirty-five Shillings each.

For particulars, apply to Mr. TREADWELL, New-street Station, Birmingham.

WHEAL PENHALE SILVER-LEAD SETTS, IN THE PARISH OF ST. BREOCK, CORNWALL.

Now to be granted for 21 years, at 1-15th dues.

One sett contains the Wheal Penhale Mine, which has returned £6000 worth of ore at a depth of 30 fms. only. The adjoining sett in the same estate contains a highly promising lode, parallel to the principal one in the old mine.—All further information may be obtained from the owner of the estate, Mr. HART NICKELL, Penhale, near Wadebridge, Cornwall.

MILLTOWN SILVER-LEAD MINING COMPANY, TULLA, COUNTY CLARE, IRELAND (LIMITED).

Capital £15,000, in 3000 shares of £5 each.—Deposit, 1s. per share on allotment. First call, £1 per share.

This company has been formed for the purpose of efficiently working the Milltown Silver-Lead Mine, in the county of Clare.

The lode is composed of spar, blende, mundic, quartz, and lime rock, intermixed throughout with good branches of silver-lead ore, worth about £20 per ton. The blende is worth £3 10s. per ton. Large deposits of ore have been found in the same strata, and carbonate of lime in large quantities lies at the surface, suitable for burning.

The opinions of three eminent practical men—viz., Capt. King, Mr. Lisabé, and Capt. Paul, of the Goginan Mine, Wales—have been obtained, who concur in the belief that the indications of the highly argentiferous ore (containing 38 ozs. of silver to the ton of lead) which this mine presents, call for such a full and proper development as can best be effected by a company with adequate capital, and hold out prospects of largely remunerative profit.

Up to a very recent period the Milltown Mine has been in the possession of an English gentleman, who, residing at a distance from the scene of operations, has been unable to bestow that constant personal supervision which is so essential to the efficient working of a mine. The directors have purchased it for the sum of £1500, and hope to be enabled to commence mining operations at once, and are convinced that the most prosperous results may fairly be anticipated. A large number of shares are already taken.

Applications for shares, prospectuses, and further information, to be made to the secretary, at the offices of the company, 8 and 9, Dame-street, Dublin.

WEST TOLVADDEN COPPER AND TIN MINE, NEAR PENZANCE, CORNWALL.

Conducted on the "COST-BOOK SYSTEM."—Divided in 2048 shares.

NO FURTHER APPLICATIONS FOR SHARES CAN BE RECEIVED, as all the shares are appropriated. J. DICKINSON BRUNTON, Sec.

5, Waterloo-place, Pall Mall, April 30, 1858.

THE RIBDEN MINING COMPANY (LIMITED).

Registered pursuant to Joint-stock Companies Act, 1856.

Capital £15,000, in shares of £1 each; 5s. per share payable on allotment.

DIRECTORS.

Mr. W. GILLISPIE, Edgehill, Liverpool.
Mr. JOSEPH NADIN, Burton-on-Trent.
Mr. JAMES PEMBERTON, Brunswick House, Birmingham.
Mr. J. S. RICHMOND, Lime-street, Liverpool.
(With power to add to their number.)

BANKERS—Messrs. Robarts, Curtis, and Co., London; the Uttoxeter, Burton, and Ashbourne Banking Company, Uttoxeter branch.

SOLICITOR—Mr. Edward Daniel, Cheadle.

CONSULTING ENGINEER—Mr. Josiah Hugo Hitchins, of the Devon Great Consols.

RESIDENT AGENT—Capt. R. Niness, of the Dale Mine.

SECRETARY—Mr. J. D. Brunton.

OFFICES,—5, WATERLOO PLACE, PALL MALL, LONDON, S.W.

This property is situated in the township of Cotton, parish of Alton, and county of Stafford, and is held under lease for 21 years (18 years unexpired), granted by the late Earl of Shrewsbury, under the powers vested in him by an Act of Parliament, 6 and 7 Vict., cap. 28, sec. 40, at a royalty of 1-15th.

The sett is about 350 fms. from north to south, and 400 fms. from east to west, and comprises within its limits a concentration of mineral lodes, from which may fairly be anticipated a large deposit of copper ore.

The rock in which the veins occur is a carboniferous limestone, and the veins themselves are composed of soft friable quartz, carbonate of lime, green and blue carbonate of copper, and the red and green oxide and sulphuret of copper. These details correspond in every respect with those which existed at the celebrated Ecton Mine (which is situated seven miles to the north-east, in the same range of hills), and the similarity justifies the expectation that by the judicious application of the capital now proposed to be raised a result highly beneficial, and it may be equal to Ecton, will be realised.

The miners who formerly worked at Ribden are all firmly of opinion that the bunch of ore which was discovered in the last operations is only a leader to a very much larger deposit. The bunch produced, in an incredibly short time, ore to the value of £2000, averaging 33 per cent. of copper, as stated by the proprietor of the Whiston Copper Works, who purchased it.

The nature of the lode at the bottom of the mine is proved by the beautiful matrix brought to the surface, just before the working was stopped by a sudden influx of water overpowering the horse-whim, and fully justifies the confident expectations entertained by the men who then worked it.

Independently, however, of operations at this point, which can only be resumed by means of steam-power, there is the evidence of one of the oldest and most intelligent miners in North Staffordshire (Philip Critchlow, whose letter is appended to the prospectus, and who has lived in the neighbourhood of the mine all his life), that "there can be a large quantity of ore raised near the surface, at very little expense."

A perusal of the reports contained in the prospectus will carry conviction of the value of this property; and it may be stated in addition that Mr. Josiah Hitchins has also inspected it, and has declared in unqualified terms his high opinion of its prospects and capabilities.

The undertaking will be conducted under the new law of limited liability, and the directors are determined to exercise an economy in carrying on the works as rigid as is consistent with a rapid development of the property.

Some magnificent specimens of the ore raised in 1826, when the mine was last worked, may be seen at the company's offices.

It is intended to call up the capital in four instalments of 5s. each, at intervals of three months, the first instalment being paid on allotment.

The lessees of the sett are under agreement to assign the lease to trustees on behalf of the company, in consideration of 7000 paid-up shares to be allotted to them.

Prospectuses and forms of application may be obtained at the company's offices, No. 5, Waterloo-place, Pall Mall; of Mr. T. LEWIS, Corn Exchange-buildings, Carr's-lane, Birmingham; Mr. DANIEL, solicitor, Cheadle; or Mr. T. E. W. THOMAS, Dale-st., Liverpool.

TRACTION ENGINE & ENDLESS RAILWAY APPARATUS COMPANY (LIMITED).—BOYDELL PATENT.

Capital £40,000, in 4000 shares of £10 each.—Deposit 10s. per share.

DIRECTORS.

WILLIAM JAMES GARNETT, Esq., M.P., Bleasdale Tower, Garstang, Lancashire.
FRANCIS HAMILTON, Esq., Friars-place, Acton, Middlesex.
WILLIAM BURNLEY HUME, Esq., 145, Leadenhall-street.
GEORGE WOOD, Esq., Hanger Hill, Middlesex.
(Four more to be chosen from the shareholders.)

No application for shares will be received after Monday, the 17th of May.

The formation of this company was projected in 1857, but the monetary crisis, which commenced about that period, induced the promoters teporarily to suspend operations for that purpose. The delay thus occasioned has afforded time and opportunity more fully to develope the extraordinary capabilities and value of the Traction Engine and Endless Railway, and the result has been most satisfactory; orders for engines and wheels for the transport of merchandise, produce, minerals, &c., on common roads, or where no roads exist, having, in the mean time, been given for Australia, India, Russia, the Cape of Good Hope, Cuba, South America, and the West Indies.

Another most important advantage arising from this delay is, that the promoters have been able to make such arrangements as will render it unnecessary for the company to become manufacturers, thus avoiding all risk, while securing the certain profit arising from the royalties, and enabling them to reduce the capital to £40,000.

For prospectuses, forms of application for shares, and further particulars, apply to the secretary, FREDERICK H. HEMMING, Esq., at the company's office, 47, Mark-lane; to Messrs. PAINE and LAYTON, solicitors, Guildhall-yard; or to the brokers, Messrs. BRAGG and STOCKDALE, 6, Throgmorton-street; SAMUEL WOOD, Esq., 14, Angel-court, Throgmorton-street, London; Messrs. WOODS and STUBBS, 9, Dale-street, Liverpool; and JAMES GORDON, Esq., Newmarket Chambers, Manchester.

THE GENERAL AUCTION COMPANY (LIMITED).—

This company calls the attention of Engineers, Architects, Contractors, Builders, Manufacturers, and others, to the FACILITIES THEY POSSESS for the PUBLIC or PRIVATE SALE of ENGINEERING PLANT of every description, BUILDING MATERIALS, LAND, &c.—Further particulars to be obtained of the MANAGER, at the offices, 23, New Bridge-street, Blackfriars, E.C.

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By the 95th Clause of this company's Deed of Settlement it is especially provided—

"That a policy shall not become void if the premium be paid within the space of 30 days next after such premium shall become due, notwithstanding the death of the assured shall have happened within such 30 days."

Every description of Life Assurance at the most moderate rates consistent with security.

G. WINTER, Manager.

PROFESSIONAL LIFE ASSURANCE COMPANY.

41, PALL MALL.—Capital £250,000.

With a numerous and influential proprietary.

CHAIRMAN—James Andrew Durham, Esq.

DEPUTY-CHAIRMAN—William Wellington Copper, Esq.

Every description of Life Assurance at the most moderate rates consistent with security.

G. WINTER, Manager and Secretary.

[PROSPECTUS.]

POLLEXFEN CONSOLS, SITUATE ON THE COURTGATE ESTATE, IN THE PARISH OF PLYMSTOCK, DEVON.

Strictly on the "COST-BOOK SYSTEM."—In 4096 shares.

Managing Committee and Officers to be appointed at the First General Meeting, which will be convened as soon as the share list is closed.

SECRETARY—Mr. E. S. Codd, 3, Union-street, Plymouth.

MANAGING AGENT—Capt. John Phillips.

BANKERS—Devon and Cornwall Bank.

This extensive sett has been obtained from Capt. Bastard, of Kitley House, for a term of twenty-one years, at 1-15th dues. It extends on the course of the lodes for full 600 fms., and from its nature and position, affords the greatest facilities for being worked in an economical and efficient manner.

Operations were commenced by the proprietors in December last, and continued to the present time, for the purpose of opening up the lodes, several of which have been discovered, and an adit is being driven in th ough a highly mineralised country, to a rising hill, giving about 20 fms. of backs towards a very promising lode, with a fine flookan at the back, containing prian, peach, spar, blende, mundic, and spots of copper. In the mean time, a lobby has been taken up, and this lode has been cut into about 3 ft. from the surface, and even at this shallow level it is 5 ft. wide, strongly impregnated with good yellow ore and mundic. From its strong and masterly character, and the fact that there are caunter lodes converging towards and crossing it in several places, there is every reason to expect large deposits of mineral in depth.

Various samples of lead and silver have been assayed, producing about 60 per cent. for the former, and from 25 to 40 oz. of the latter to the ton.

All costs have been defrayed by the present proprietors up to the present time, including £100 paid to the lessee, to cover land damage, and it is calculated that if the lodes turn out as expected, £1000 will put this concern into a good and profitable position. The stratification of the country is indicative of large deposits of lead, and the advantageous position of the sett for carriage of ore and materials, will render any mine, of even ordinary promise, a safe and profitable investment.

To show their confidence in the undertaking, the present proprietors hold three-fourths of the shares, and offer the public 1024 shares at 10s. per share, of which £300 is to be paid to them, for their expenditure up to this time, and the remainder applied to the working of the mine.

REPORT OF THE CAPTAIN.

Pollexfen Consols, Plymstock, April 14.—We commenced operations in the mine Dec. 14, 1857. We first sunk a shaft through some old workings to the depth of 32 ft.; at this point we found the bottom of the old men's workings, and some silver-lead ore, but in consequence of so much water we cannot sink with our present machinery. We have driven a 5 fm. level south from this shaft about 5 fms.; the lode is 18 in. wide, carrying lead, goesan, prian, flookan, and spar—a very promising lode; 130 fms. south from this shaft we have costeaned west, in doing which we cut a caunter lode 20 in. wide, carrying a beautiful goesan, and in costeaning south from this point we have cut an east and west lode; this lode is 5 ft. wide, and composed of flookan, prian, spar, blende, and copper ore. We are at present driving a deep adit to intersect this lode, which I hope to reach in three weeks from this date, and no doubt when this lode is intersected it will be very remunerative for lead or copper ore. This is a very valuable piece of property, and there is not the least doubt but it will make a very good mine for a very small outlay. I might further state that this property is bounded on the west by dunstone, and close to this limestone, to the east, is soft dun and elvan; north, about 2½ miles, is granite, known to carry large deposits of minerals. J. PHILLIPS.

FORM OF APPLICATION FOR SHARES. (To be sent to the Secretary.)

To the Proprietors of Pollexfen Consols.

GENTLEMEN.—I hereby request you to allot me shares in the above mine, and agree to accept that, or any less number, and on allotment to pay to the secretary, 10s. per share, to be applied according to the prospectus.

Dated the day of 185

Name in full.....
Address.....
Profession or Calling.....

ROSSIE AND CANADA LEAD COMPANY (LIMITED).

Incorporated under the Joint-Stock Companies Acts, 1855, 1856, and 1857, whereby the liability is limited to the amount subscribed.

Capital £60,000, in 6000 shares of £10 each.

DIRECTORS.

WILLIAM COX, Esq., M.P.—CHAIRMAN. } Directors of the Linares
J. CROSBY, Esq., Church-court, Old Jewry, London. } Lead Mining Company.
THOMAS ABRAHAM, Esq., New Broad-street, London.
G. E. BALL, Esq., Shorter's-court, Throgmorton-street, London.
GEORGE R. HAZEWELL, Esq., William-street, New York, U.S.
GEORGE MURRAY, Esq., Austinfriars, London.
WILLIAM SABINE, Esq., Jun., 54, Old Broad-street, London.
WILLIAM WILLIAMS, Esq., Rood-lane, Fenchurch-street, London.

AUDITOR—William Turquand, Esq.

BANKERS—The National Bank, Old Broad-street, London.

MANAGER AT ROSSIE IN AMERICA—Capt. William Treloase, of Combmartin, Devon.

BROKERS—Messrs. Eykyn Brokers, Change-alley, Cornhill.

SECRETARY—B. R. Pemberton, Esq.

TEMPORARY OFFICES,—1, PINNER'S COURT, OLD BROAD STREET.

The mines of this company are two in number,—the Rossie, or Coal Hill Mine, and the Victoria, or North Mine; they are situate at Rossie, in the St. Lawrence county, State of New York, being only 17 miles from Morris Town, a good port on the river St. Lawrence, from which there is free navigation to the various markets of the United States; communication is also open by railway from Antwerp on the Watertown and Potsdam Railway to New York, Antwerp being likewise 17 miles from the mines. The Rossie Mine was worked prior to the year 1856, by an American Company, to the 30 fm. level, and the Victoria to the 15 fm. level, and large quantities of ore were extracted therefrom.

This company commenced their operations in July, 1856, by the dispatch from England of Mr. William Treloase, a most able and practical mining captain, whose reports justified the company in sending him, in the latter part of last year, 38 men (miners, ore dressers, &c.) from this country, by whose assistance, and that of about 40 other miners and labourers of the country, he has prosecuted considerable works in the Rossie Mine, and partially opened the Victoria Mine. In November last, the directors of the company secured the services of Mr. Henry Thomas, late manager of, and for many years engaged in the Linares Mines, in Spain, who proceeded to Rossie, for the purpose of surveying the company's property; on his return he furnished the company with a report upon all matters relating to the mines, and subsequently he says—"I still entertain a favourable opinion of the Victoria Mine, and unquestionably recommend that the works advised by me should be vigorously prosecuted for its development, considering the same to be a fair and legitimate mining speculation, and deserving the application of capital; and in regard to the Rossie Mine, I should still advise that the works suggested should be pursued, if your capital will allow."

The Rossie Mine is now down to the 40 fm. level, and is there being driven to the east of a shaft called Crystal shaft, and to the west of the engine-shaft. At the junction of this level eastward, with a shaft called Cox's shaft, the lode is being followed, having gone out north of said shaft. It is a well-defined lode, 2½ feet wide, and showing some very fine stones of ore; to the westward the level has been driven to meet a winze below a shaft called Rodda's shaft, where it is stated considerable quantities of lead ore may be found; but the operations here have been temporarily suspended, and the men transferred to the Victoria Mine for the purpose of opening it up without delay. The stopes to the east of the above-named level, and a few fathoms above, are producing from 2 to 3 tons of lead ore per fm., and in the bottom of the said level a winze has been sunk on a most valuable shoot of ore, producing 3 tons per fm.; this shoot of ore is going down, and if productive to the same extent to the next level, a very large quantity of ore in this part alone will be obtained: further operations are recommended to be pursued in the east of this level as soon as sufficient capital can be procured.

The Victoria presents all the elements of a highly productive mine. It is 250 fms. north of the Rossie Mine, and comprises two veins, very near each other—the south vein being that on which the engine is placed. It is large, and opened on the back for 150 fms. long—viz., 44 fms. east and 110 fms. west. The two lodes are distant from each other about 5 fms., and it is computed will form a junction at a moderate depth; they can readily be worked by cross-cuts at the respective levels. In the bottom of the 15 fm. level, west of the cross-course, there is a lode worth 30 cwts. per fm., with improving appearances. This mine is now down to the 26 fm. level, and is being driven east and west. The west end is now producing 8 cwts. of ore per fm., and the east has a very promising appearance. The Victoria shaft, which is east of the engine-shaft, is down about 10 ft. below the 15 fm. level; the lode is 4 ft. wide and contains good stones of ore. It is intended to open the mine at the point west of the engine-shaft, where the two lodes join, by sinking a new shaft on the lode, so as to secure a more rapid development than can be obtained by the levels from the engine-shaft alone.

The ore raised averages over 80 per cent., as appears by the report of the assayer, John Mitchell, Esq., F.G.S.

The expenses attending the smelting lead are very small, owing to the supply of fuel (wood) being in close proximity to the mines.

The cost of conveying the lead from the mines to New York is $8½ to $10 per ton, or say £1 14s. to £2 per ton. Lead imported into New York from foreign countries, pays an *ad valorem* duty of 15 per cent., from which this company's lead is exempt, the county of St. Lawrence being in the Union. The amount paid for the lease of the mines, for the transfer of the stock to the company, including steam-engines, boiler-house, engine-house, and other buildings, plant, machinery, materials, &c., together with some lead and ore then on the mines, was £40,000, in paid-up shares. The buildings are adequate to the carrying on of extensive operations, and are conveniently situated. The manager's dwelling-house and office and also dwellings for workmen are on the mines. The company have recently erected on the Victoria Mine a new steam-engine, and other works of a necessary character, rendering the entire property complete in every respect. The mines are held under a lease of 20 years, at a royalty of 1-15th; the minimum is fixed at 20 tons per annum of metallic lead for each mine.

The proximity of cheap land and water conveyance for the lead to market, the abundance of fuel for engine, smelting, and other purposes, procurable at small cost, and the high percentage of the ores, together with the protective duty of 15 per cent. on foreign lead, combine to place this undertaking under highly favourable circumstances.

It being intended to prosecute vigorously the works recommended by Captain Treloase, Mr. Henry Thomas, and Mr. William Thorne (the mining manager of the company in England), all of whose reports encourage the company to look for satisfactory results: the shares remaining unallotted will now be issued; applications for the same to be made at the office of the company, or at the brokers' office, in the accompanying form, on or before the 10th of May. One pound per share is to be paid to the bankers on application, and £3 per share in one month in exchange for certificates. Two months' notice will be given of any future call.

The additional capital about to be raised, will be applied entirely to the working of the mines, there being no debts or liabilities whatever existing against the company: the amount already subscribed, together with the nett proceeds of lead sent to market, having more than sufficed to pay all expenses.

The various reports above mentioned, are opened for inspection at the temporary offices of the company, No. 1, Pinner's-court, Old Broad-street, where any further information can be obtained.

FORM OF APPLICATION FOR SHARES.

To the Directors of the Rossie and Canada Lead Company (Limited),
1, Pinner's-court, Old Broad-street, London.

GENTLEMEN,—Having paid into the hands of the National Bank, Old Broad-street, the sum of £ to the credit of the Rossie and Canada Lead Company (Limited), I request you will allot me shares of £10 each, in the said company; and I agree to accept such shares, or any less number that may be allotted to me, and to pay the further sum of £3 per share in one month in exchange for certificates, and calls when made, and to execute the Deed of Settlement when required.

Dated the day of 1858.

Name.....
Address.....
Occupation.....

Progress and Present State of British Mining.

BY JOHN ARTHUR PHILLIPS, ESQ.

The metals sought by the miner usually occur in combination with either sulphur or oxygen, or their oxides may themselves be combined with an acid, giving rise to carbonates, phosphates, sulphates, &c. In this state they are said to be mineralised, and the unproductive substances with which they are associated are known as the matrix or gangue. When such a mixture contains a sufficient proportion of mineral to enable it to be advantageously treated, it is known as an ore of the metal which it contains.

Metalliferous ores are derived either from veins or beds, but gold, and the finer descriptions of oxide of tin, are chiefly obtained by washing certain alluvial deposits, consisting of the debris of veins yielding these metals.

Veins or lodes have been defined by Werner to be "mineralised repositories of a flat or tabular shape, which traverse strata, without regard to their stratification, having the appearance of rents formed in the rocks, and afterwards filled up with mineral matter, which differs more or less from the rocks themselves."

The most important ore occurring in beds is ironstone: this is frequently found interstratified with the coal, sandstone, and shales of the coal measures, and preponderates in value over every other mineral deposit worked in this country. The methods of working these several forms of deposit, and the subsequent preparations of the ores obtained, have from time to time received various modifications and improvements, and these will form the chief subject of the present paper. It would appear that silver and gold were known to the Britons before the Roman invasion, since coins of these metals were in circulation among them before the arrival of Cæsar. Cæsar and Strabo both state that the Britons obtained their copper from foreign countries, from which it may be inferred that the art of refining this metal was but little cultivated by our forefathers at that remote period. Iron is described by Cæsar as being so rare in Britain that pieces of it were employed as a medium of exchange; but a century later it had become exceedingly common, since in Strabo's time it was an article of exportation.

Tin was anciently, however, the most celebrated metallic product of Britain, and appears to have been obtained in considerable quantities, since it was the desire of obtaining possession of the tin mines, and thereby becoming independent of Phœnician monopoly, which first induced the Romans to visit this island.

Before the conquest of their country, the ancient Britons extracted tin from its ores by methods which they had themselves discovered, and which were probably improved by their conquerors. The broken and rudely-washed ore was placed in a hole cut in the ground, the sides of which were lined with fuel, and this being ignited reduced the metal, which was run off into an outer receptacle. Many of these rude furnaces have been discovered in various parts of Cornwall, in which not only charcoal and slags have been found, but also portions of reduced metal, which, in some instances, from long exposure to oxidising influences, have again become partially converted into peroxide.

The remains of these ancient establishments are known by the name of "Jews' Houses;" and a short time since a remarkable relic of this description was found buried beneath a stratum of peat, 12 ft. in thickness, at Redmoor, in the parish of Luxulion, Cornwall.

At this place, in addition to a considerable amount of metallic tin, more or less oxidised on the exterior, large quantities of imperfectly fused scoriæ, mixed with imbedded charcoal and metallic globules, were discovered. A Romano-British fibula, some stone arrow-heads, a piece of bronze, a wooden shovel, and another shovel of wood tipped with iron, were also found, together with a fragment of an earthen tuyere, and numerous blocks of peat, which had evidently been collected for the purpose of being employed as fuel by the ancient smelters, and subsequently become covered by a deposit of the same material. A large proportion of the objects found in this locality will be found lying on the table.

The form of bellows employed in these rude smelting works cannot now be determined, but two very simple methods of obtaining a current of air for such purposes are given in diagrams 1 and 2. The first of these represents bellows, from an Egyptian painting after Rosellini. The men are here represented as blowing a charcoal fire, to each side of which is applied a pair of bellows. These are worked by the feet, the operators standing upon and pressing them down alternately, whilst they pull up each exhausted skin by means of a string held in the hand. The second diagram represents the bellows employed for the manufacture of wootz by the natives of India. Another ancient smelting establishment, found in the same neighbourhood, was probably of a much more recent date, since not only were some portions of the stonework still remaining, but the slags were more completely fused, and entirely free from any admixture of metallic globules. These slags were found on analysis to have the following composition:—

Silica	40·60
Alumina	19·22
Oxide of tin	22·95
Protoxide of iron	7·31
Sulphide of iron	9·04
Lime	traces
Potash	1·00=100·12

In this place there were also discovered some tobacco pipes and a coin of Charles I. Previous to the time of Charles no attempt had been made to effect the smelting of tin by means of pit coal; but, at this period, some unsuccessful experiments were undertaken by Sir Beville Grenville, of Stow, in the county of Cornwall. No satisfactory results, were, however, obtained until the second year of the reign of Queen Anne, when a Mr. Liddell, of Bodmin, who was associated with Mr. Moult, at that time celebrated as a chemist, obtained a patent for the reduction of tin ores in a blast furnace, by means of fossil fuel. The invention of the reverberatory furnace soon followed this discovery, and this apparatus, slightly modified in form and dimensions, is that employed by the tin smelters of the present day. The alluvial tin deposits of Cornwall have been worked from the remotest antiquity; but during the last three centuries the larger proportion of ore produced has been derived from workings on lodes.

The produce of these, in 1800, was 2522 tons; in 1810, 2036 tons; in 1820, 2990 tons; in 1830, 4444 tons; and in 1855, 6000 tons of black tin. Tin ore, or black tin, usually contains about 70 per cent. of metal.

One of the oldest mines in Europe, producing large quantities of copper, is that of Rammelsberg, near Goslar, in Lower Saxony, the records of which have been traced back to the tenth century. The celebrated Swedish mine of Fahlun, commenced in the twelfth century, afterwards entered into competition with Rammelsberg, and afforded large quantities of ore. The mines of Thuringia were opened in the thirteenth century, and, together with others of less note, situated in various parts of Germany and Sweden, supplied for some years the wants of a large portion of the civilised world.

Cumberland is known to have produced copper in the thirteenth century, as it is shown, by records still preserved, that rich veins of this ore were worked at Newlands, near Keswick, in the year 1250. It is also evident, from a charter granted by Edward IV., A.D. 1470, to the town of Keswick, that it was at that period the seat of extensive copper works. In Camden's time these works were re-opened, but afterwards destroyed, and the miners killed in the civil wars. Copper was also produced in considerable quantities at Ecton Hall, in Staffordshire, before its discovery in Cornwall, since Dr. Pot, who wrote in 1686, speaks of the copper mines as having been wrought long previous to that date.

The Pary's Mine, in Anglesea, is supposed to have been first opened by the Romans, and became exceedingly productive about the year 1773; and, during the twelve succeeding years, produced such large quantities of copper ore as to reduce, in a very considerable degree, the price of that metal throughout Europe. Subsequently to this date the produce of the Anglesea mines began rapidly to decline, and, in 1799, the Pary's mountain had become almost exhausted. Systematic explorations for copper were probably commenced in Cornwall about the year 1700. At first the annual amount of ore raised was very limited, as several causes operated to restrict this branch of industry. The machinery employed was inefficient, and unfitted for removing large quantities of water from considerable depths. The royalties, or lord's dues, were also usually exorbitant, amounting to one-eighth, one-seventh, and even one-sixth of the gross produce of the mine, whilst the smelters, on the other hand, compelled the miners to accept such prices for their ores as they thought fit to determine. With the improvement of pumping machinery and a more liberal scale of royalties, the annual production of copper ores in Cornwall has now reached nearly 200,000 tons, and there is but little doubt that the yearly produce of this metal will steadily increase. The average yield of Cornish copper ore may be taken at about 6¾ per cent.

A work, entitled "A Just and True Remonstrance of His Majestie's Mines Royall to His Majestie," published in 1641, affords a tolerable idea of the state of lead mining in this country at that period. This volume consists of a series of letters, or rather memorials, addressed to the King (Charles I.), the Prince of Wales (afterwards Charles II.), and the Privy Council, by Mr. Bushell and others, interested in the mines royal of Cardiganshire, praying for the extension of the lease, the employment of convicts in the mines, and the liberty of cutting peat and turf for the purpose of smelting the ores.

Sir John Pettus, who published his "Fodinæ Regales" in 1670, remarks, while treating on the mines of Cardiganshire, "The chief mines which produce silver now in working (though not effectually), are those at Coomsumblock and the Daren Hills, Cogincan, Tallabont, Coomustwith, Tredole, Thruscott and Rosseveaure, which were the old Roman works, near to which are conveniently placed the smelting and refining mills, all which are in the townships of Skibery Coed, in the parish of Llanny Hangell, Genne Glyme, and in the county of Cardigan, *alias* shire Abertivy."

The ores furnishing lead are more uniformly distributed in this country than those of copper. About 330 lead mines are now making returns, and at least 400 may be estimated to be in operation, although the total produce of this metal has of late years experienced but slight increase. A large quantity of British lead ore contains a valuable amount of silver. The richest ores are produced in Cornwall, and yield on an average about 23 ozs. of silver per ton. The mines of Alston Moor, Weardale, and Teesdale, afford lead yielding from 6 to 12 ozs. of silver per ton, Derbyshire and Shropshire lead contains from 1 to 1¼ oz. per ton, and the mines of Flintshire and Denbighshire yield lead averaging from 4½ to 6½ ozs.

The nett consumption of pig-lead in our home manufactories, for eight years ending 1855, averaged nearly 55,000 tons per annum. The price of this metal has experienced great fluctuation during the present century. From 1806 to 1815, it averaged 27*l.* 12s. per ton; from 1816 to 1825, 21*l.* 18s. 6d.; in 1830, the price had declined to 12*l.* 10s.; whilst at the present time it may be taken at 22*l.* 10s. In 1796, the make of iron in this country amounted to 125,000 tons; in 1806, to 250,000 tons; in 1820, to 400,000; in 1827, to 700,000; and in 1855, to nearly 3,300,000.

Coal was not generally employed as fuel until the beginning of the reign of Charles I. It is, however, mentioned in documents anterior to the reign of Henry III., for that monarch, in the year 1234, renewed a charter granted by his father to the inhabitants of Newcastle, who were permitted to dig for coal on paying an annual tax of 100*l.* That this fuel had been introduced into London before 1306 is proved by the fact that in that year its use was prohibited, from the supposed tendency of its smoke to "corrupt" the atmosphere.

The coal fields of Colliery, near Lanchester, were first opened in the year 1330; those at Merrington and Ferry Hill, in 1343, and those of Gateshead, Wickham, and Tynemouth, in the year 1500. The coal fields of the United Kingdom have been estimated to contain an area of 12,000 square miles. The present vend of coal is about 5,500,000 tons per month. This is obtained from 2700 collieries.

The annual yield of our mineral products now amount to 35,000,000*l.*, and any estimate of the value which this sum ultimately assumes after the metals have been subjected to more or less complicated elaboration, must be merely hypothetical.

MINING OPERATIONS.

SETT, &c.—It being impossible to compress within the limits of a single paper even a very brief sketch of all the various systems of mining resorted to in this country, I shall confine my observations to the method employed for the working of mineral veins, and endeavour succinctly to trace the operations of the miner from the time of selecting a piece of ground for exploration up to the period of his sending his dressed ores to market. Whilst doing this, I shall also point out some of the more striking improvements which have been introduced, and direct attention to the sources from which further advantages may be anticipated. The minerals of Great Britain do not, as in many continental countries, belong solely to the Crown, but are generally the property of private individuals. The mineral and surface rights are, moreover, not always united, and, consequently, the mineral lord may be in receipt of an income from mining operations, whilst the surface proprietor, whose land is destroyed, receives little or no compensation. In most of our mining districts the veins cannot be explored without the express consent of the proprietor, but in certain exceptional localities they may be attacked without any special license or authorisation. In such cases tradition and custom constitute the acting covenants, and necessitate each individual miner to become a conservator of the general privileges. The consideration given for the right of exploring the contents of a vein is usually a fixed proportion of the value produced, rendered either in kind or money, and technically known as royalty. This is secured to the lessor by a lease, which embraces a variety of covenants with the lessee relative to the management of the property, and which remains in force during a stated number of years. The operations of the lessee are confined within certain limits, called a Sett, within which, subject to various restrictions, he may work as he thinks proper. Previous to obtaining a lease, the miner sometimes works under what is called a take-note, extending over a period of one or more years. This document is more simple than a lease, and its cost comparatively trifling.

SHODING.—When a piece of ground has been selected, and a take-note or lease been obtained, the operations of the miner are usually commenced by what is known as shoding or costeaning. This consists in sinking a series of pits from the surface to a short distance in the shelf or rock, in a direction as nearly as possible at right angles to the presumed run of the lodes in the locality. These pits, being connected with each other by means of galleries from their bottoms, will necessarily discover the backs of any veins or lodes that may be traversing the property. When sufficient inducement for the further prosecution of the work has been discovered, the ground is either explored by an adit-level, or by shafts, cross-cuts, and levels.

AN ADIT LEVEL consists of a gallery driven in from the lowest available ground within the limits of the sett, and may be either directed on the course of one of the principal lodes, or so as to intersect the different veins at a more or less considerable angle. The first method, where practicable, possesses the advantage of exploring a considerable length of the vein, on the direction of which the level has been extended, and affords facilities for intersecting a number of parallel lodes by means of cross-cuts, whilst, by the second, the whole of the veins contained in the sett may be frequently intersected. A large amount of both money and time are, however, often squandered in resorting to drainage by means of an adit level. Whatever facilities the locality may afford for this system of drainage, it is never prudent to resort to it if the cost will much exceed that required for the erection and maintenance of machinery to secure the same object. For this reason long shallow adits, a few fathoms only below the surface, are seldom to be recommended, since to explore the ground to any considerable depth machinery must generally be erected, and when this is done the cost of raising water an additional ten or fifteen fathoms is but trifling. An adit level usually affords drainage to a very limited extent, and possesses few advantages beyond saving the cost of draining water from its point of intersection with the lode to the line of surface. When once this depth and the quantity of water are known, the cost of the necessary machinery and the expense of pumping can be approximately determined, and if these be compared with the expenditure incident to the driving of a level, the relative advantage of the two systems in both time and money becomes apparent.

SHAFTS.—When the employment of shafts has been determined on, it is of the greatest importance to the success of an undertaking to choose eligible sites for these works, since they not only constitute the highways to and from the various horizontal galleries, but also afford the necessary facilities for unwatering the mine, and removing its produce. Where extensive permanent operations are contemplated, vertical shafts are generally to be preferred, especially when large lifts of pumps are to be placed in them; but, in the case of commencing preliminary trials, it often becomes a question worthy of careful consideration, if a saving of both time and money may not be effected by the use of underlie sinkings. Apart from ventilation and pumping, shafts are only used for winding and climbing, and for the latter purpose inclined are preferable to vertical shafts. The drawing of stuff through inclined shafts was formerly attended with considerable inconvenience and expense, since no efficient means had been adopted for the prevention of friction and strain. These evils have of late years been obviated by the introduction of a kind of guide rail from the mouth to the bottom of the shaft. This may be constructed either of wood or iron, whilst the kibble should be not only provided with wheels to run on the rails, but should also have anti-friction rollers, so arranged as to retain it in its proper position during its passage through the shaft. The form of the kibble employed should be such as to admit of its being readily filled and emptied. Where these appliances are adopted, the cost of drawing through underlie shafts is not found to exceed that of hauling through vertical ones, whilst in many instances the difference of the cost of sinking is exceedingly great.

LEVELS ON THE COURSES OF LODES.—Pryce, who wrote his *Mineralogia Cornubiensis*, in the year 1778, states that at that period the vertical distance between levels averaged about 8 fms., but since that time it has been increased to 10, and in some instances 12 fms. There does not, however, appear to be any valid reason for adopting uniformity of distance between such drivages, since this should rather depend on the nature and character of the lode than on any arbitrary custom. When lodes are large, and contain short lenticular bunches of ore, as in the case of many of the German mines, a less distance than 10 fms. may be advantageous; but in the case of veins presenting considerable uniformity of composition, distance of even 15 fms. might sometimes be adopted with advantage. The drivage of levels at short distances from each other must necessarily entail a heavy expense on an undertaking, and, consequently, this portion of mining cost should be carefully economised.

WINZES AND STOPES.—Winzes are shafts sunk between two levels for the purpose of connecting them, but without communicating with the surface, and are employed for forwarding, ventilation, and many other purposes. When a shaft is sunk or a gallery excavated in hard rock, there is but little difficulty in making it retain its original form, but should the ground be soft, and consequently offer but little resistance to pressure, artificial means must be adopted for its support. This is most frequently effected by means of wood, although, in some instances, walls of brick or stone are employed for that purpose. The ores existing in a vein are, to a certain extent, extracted in cutting the longitudinal galleries excavated in it, but, as these are situated at considerable distances from each other, the ore thus raised forms but a very inconsiderable part of the produce of the lode. In order, therefore, to obtain the minerals between the different levels, the ore is worked out, and the space afterwards filled in with rubbish arising from the other operations of the mine. This operation is called stoping.

METHODS OF ATTACKING THE ROCK.—The tools employed by the miner necessarily vary in accordance with the nature of the rock which he has to traverse. If the ground be soft, nothing but an ordinary pick and shovel are employed; if it be somewhat hard, and contains numerous fissures, he has recourse to the use of steel wedges, called "gads," by driving which into the crevices of the rock he is enabled to split off larger portions than he could by the use of the pick alone. When the ground to be cut through does not admit of being thus broken, the work is effected by the assistance of gunpowder. Before this can be employed, it is necessary to bore a hole into the rock for its reception, which is done by a bar of steel, armed with cutting edges. Instead of using a steel bar, one of iron, furnished at one of its extremities with a steel point, is sometimes employed. To use this instrument, one of the workmen holds the sharpened end of the borer to the rock, whilst another hits the other end a heavy blow with a large hammer or a mallet. As the hole deepens, the person who holds the tool turns it a portion of a revolution between each blow, and in this way a deep hole is ultimately obtained. The borer is, from time to time, during the operation, removed from the hole for the purpose of taking away the broken rock or sludge, and a little water is added for the double purpose of cooling the borer and facilitating its action. When the hole has attained a sufficient depth, which necessarily varies with the nature of the rock operated on, it is carefully cleaned out with what is called a swab-stick, and a proper quantity of gunpowder deposited at the bottom. For the purpose of confining this, and thereby giving force to the explosion, the hole is now filled up by ramming in a quantity of soft schist, called "tamping;" a small hole being left by the introduction of a copper needle, which is subsequently removed to afford means for exploding the charge when required. This is done by means of a reed or rush, filled with fine powder, and to which a slow match is attached, during the burning of which the men have time to escape out of the reach of the fragments of rock projected by the explosion. Within the last few years, however, this method of blasting has, in this country, become almost entirely superseded by the use of the "patent safety fuse," which itself not only acts as a slow match, but has also the advantage of being safer and more readily employed, since, with it, the copper needle is no longer necessary, the fuse being placed in the hole before it is closed, and the tamping forced in around it. When the rock in which a hole has been bored is damp from infiltration of water, the powder is enclosed in a waterproof bag before being introduced into the cavity.

PUMPING MACHINERY.—From the large quantities of moisture constantly percolating through the strata, all the workings of a mine below the adit level would quickly become filled with water if some means were not adopted for its removal, and, for this purpose, numerous and frequently very complicated machinery has, at various periods, been made use of. The most simple and earliest employed method of removing the water from a shaft is doubtless by means of a bucket and cord set in motion by manual labour or horse-power, although, on referring to the works of Agricola, who wrote about the year 1530, we find that pumps of various descriptions, set in motion by water-power, were then commonly used for mining purposes. We are informed by Mr. Bald, in his *Coal Trade of Scotland*, published in 1812, that in 1690 water-wheels and chains of buckets were commonly employed to drain the collieries in that country. The axle of the wheel extended across the pit's mouth, and small carriers were fixed upon it to receive endless chains, consisting of two or three tiers, which reached down to the coal. To these chains were attached wooden buckets or troughs fixed in a horizontal position, which circulated with the chains, ascending on one side and descending on the other, filling at the bottom and discharging at the top, as they turned over the wheels of the axletree. This apparatus was subject to the inconvenience that whenever a joint gave way the whole set of chains fell to the bottom, and every bucket attached to them was splintered in pieces by the fall. When water could not be procured, the same sort of machinery, upon a smaller scale, was worked by horses. In 1708, windmills were erected to work pumps on several collieries in Scotland, but, being ineffective in calm weather, never came into general use. Savery, about the year 1696, was probably the first to employ steam-power for the raising of water to a higher level. In Savery's engine, a vacuum was formed in the receiver by the condensation of steam; water was then forced into it by the pressure of the atmosphere, and elevated to any required height by the direct action of steam on its surface. This inventor was the first to employ the term horse-power. His apparatus was ultimately superseded by Newcomen's atmospheric engine, introduced about the year 1705. The construction of this machine differed widely from Savery's arrangements, inasmuch as the steam exerted no direct influence on the surface of the water to be elevated, but was only employed as a means of forming a partial vacuum beneath a piston attached to one end of a lever, whilst the pump-rod was in connection with the other. In this way atmospheric air performed the principal duty, whilst steam was merely used as a means of removing the air from beneath the piston. To this engineer belongs the credit of introducing the beam or balance lever, and the method of condensing steam, and forming a vacuum by immediate contact with cold water. The various cocks and valves of this apparatus were at first opened and closed by the hand of an attendant, until Humphrey Potter ingeniously connected them with the beam by means of strings and catches. This arrangement was subsequently improved on by Mr. Henry Beighton, who employed the plug rod and hand-gear; which, with but slight modification, is that used at the present day. This gentleman was also the first to adopt the steelyard safety-valve. Two of Newcomen's engines were, at an early period, erected at Wheal Busy, near Chacewater, with cylinders, respectively, 66 and 72 in. in diameter. The consumption of coals by these machines was 320 bushels, or about 13 tons daily.

In the year 1766, the attention of Smeaton was first directed to improvements in steam machinery. With an experimental engine of 1-horse power, he evaporated 6¼ lbs. of water by 1 lb. of coal, and produced the best effects with a pressure of 8 lbs. above that of the atmosphere. In 1775, he erected a 72-inch atmospheric engine at Wheal Busy. The stroke of this machine was 10½ feet, cylinder placed over the boiler, and the main beam composed of several pieces of wood bolted together, and provided with D-ends. The highest duty performed by this apparatus was 9,450,000. By enclosing the fire, and supplying the fuel through a tube, this engineer was able to evaporate 7·88 lbs. of water with 1 lb. of coal. Watt was chiefly occupied with his improvements of the steam-engine from the year 1762 to 1800. He found that the loss of heat, arising from condensation within the cylinder, amounted to 32 per cent. of that employed, in addition to a considerable loss of time to effect the result.

His first attempt at improvement was to employ a wooden cylinder, but he ultimately arrived at the conclusion that, in order to obtain the greatest economic effect of steam, the cylinder should be of as high a temperature as the vapour entering it—that condensation should be effected in a separate vessel—and the injected water, if possible, cooled to below 100° Fahr. The means of accomplishing this did not occur to him until 1765, when he conceived the idea that, if a communication were opened between a cylinder containing steam and another vessel exhausted of air, the steam, as an expansive fluid, would immediately rush into the empty vessel, and continue to do so until an equilibrium was established; and that if the vessel were kept sufficiently cool, by injection of water or otherwise, more steam would continue to enter, until the whole was condensed. Thus, the production of a vacuum in the cylinder, without cooling it, was insured, and the principle of the steam-engine became what it continues to be at the present day. In addition to the condensor, Watt introduced a method of lubricating the piston by the employment of wax or tallow, placed an air-tight cover on the cylinder, with a stuffing-box round the piston rod, and so admitted the steam above the piston as to act on it in place of atmospheric pressure. The separate condensor was patented by Watt in 1769; and in 1776 he succeeded in obtaining a duty of 21,000,000 from an engine erected at Soho. In the year 1784 he patented the arrangement of levers known as the parallel motion, and applied the governor for regulating the motion of the engine. He likewise, about this period, introduced the system of admitting steam alternately on either side of the piston, thus making the engine double instead of single-acting.

In granting licenses for the use of his inventions, Watt stipulated that he should receive one-third part of the value of the saving of coal effected by his engines, as compared with atmospheric machines doing the same work with similar fuel. In order to obtain a standard of comparison for this purpose, a committee was appointed in 1778 to make a trial of two atmospheric engines at Poldice, in Gwennap, and reported their duty at 7,058,252, which was from that time taken as the standard of Newcomen's engines. The number of strokes made by the several machines was ascertained by means of a train of wheels, called a "counter," attached to the vibrating beam. The practical application of the expansive property of steam was first suggested by Watt in 1769, introduced by him at Soho in 1776, and in the following year at some water-works near London. In 1781, Hornblower took out a patent for working steam expansively, and may be considered to have been the first to bring this subject prominently before the public. He was also the first to employ two cylinders, since known as the combined cylinder engine. Watt employed what is called low-pressure expansive steam, but in 1802 Trevithick and Vivian obtained letters patent, securing the application of high-pressure principles to the steam-engine. In 1806, one of those engines was used at Dolcoath Mine for drawing ores, and about this period the idea occurred to Trevithick to employ high-pressure steam in Bolton and Watt's engine, and expanding it down to the density at which it is usually admitted. This method was not, however, adopted till 1812, when it was tried at Wheal Prosper. In this engine the steam was cut off at one-tenth the stroke, and the pressure in the boiler 40 lbs. to the square inch. Woolf, in 1810, introduced high-pressure steam in a small cylinder, which was subsequently expanded in a larger one of four times the capacity, and by this means obtained a duty of 34,000,000, which in May, 1816, was increased to 57,000,000. In 1815, Trevithick patented his pole engine, and erected one of them at the Herland Mines. Mr. Sims, by combining Trevithick's pole with Bolton and Watt's engine, realised in 1817 a duty of 49,000,000, from an engine at Wheal Chance. Several machines of this description were erected in different parts of Cornwall about this time, but were ultimately abandoned, and superseded by single-acting engines, in which the steam was worked at a higher pressure, and more expansively than had been hitherto done. Capt. Grose, in 1825, erected an engine at Wheal Hope, which, by a judicious system of clothing, yielded a duty of 62,000,000, which in 1828 he augmented to 87,000,000, in an engine erected at Wheal Towan.

The following table, compiled by Mr. Enys, contains various interesting particulars connected with the engines of Newcomen and Watts:—

Engines.	Newcomen's.	Watt's low-press. (often expansive.)	Watt's high pressure expansive.
Largest cylinder, in inches	77	63 double	90 single
Load in lbs. per square inch	6 to 7½	6 to 9	3 to 18
Period of use	1720 to 1778	1778 to 1812	1812 to 1838
Highest duty in million lbs.	3 to 7	12 to 9	20 to 93
Average duty in million lbs.	—	19½ in 1793 / 17½ in 1798	about 50
Depth of mines in fathoms	90	200	293

In 1835, Messrs. Lean estimated the number of pumping-engines in Cornwall at 104; stamping engines, 14; and winding engines, 66; making a total of 184. These annually consumed 69,559 tons of coal, of the total value of 59,125*l.* The quantity of water deliver from the Cornish mines, in 1837, was estimated by Sir Charles Lemon at 37,000,000 tons. The average cost of pumping water in the Cornish mines, from a mean depth of 100 fms., is about one and three-tenths of a penny per 1000 gallons. This sum includes coal, engine men, and pitmen's wages and sundries, but does not comprehend any charge for wear and redemption of machinery.

DUTY OF THE STEAM-ENGINE.—The term "duty" was first employed by Watt to express the nett result obtained from the combustion of a given quantity of coal. This expression may therefore be regarded as the results obtained by multiplying the weight of water lifted by the space through which it has been raised, and dividing by the weight of coal consumed—(W×S÷C)=X. Messrs. Bolton and Watt appealed to this test of the efficiency of their engines, when engaged in determining the saving of fuel due to their invention. Watt also invented the *counter*, for recording the number of strokes made by an engine; this was, as at the present time, attached to the main beam. At the expiration of Watt's patent, about the year 1800, the duty of the best engine in operation was 20,000,000, which, compared with the best results rendered by Smeaton's engines—9,450,000—will show an increase of 100 per cent., and this may be taken as the economic value of the several improvements effected by this inventor. The progressive duty of the steam-engine has been ably traced by Mr. Taylor, from the time of Smeaton down to the year 1828. The researches of this gentleman show that practical experience has done far more than scientific investigation towards attaining the present great economy of fuel; and that this result has been mainly effected by the use of high-pressure steam expansively employed, introducing Trevithick's boiler, and clothing the cylinder and steam-pipes with some non-conducting material. The periodical increase of duty in Cornish steam-engines from 1813 to 1856 is given in the following table:—

Year.	Approximate No. of engines reported.	Average duty of the whole.	Average duty of the best engine.
1813	24	19,456,000	26,400,000
1823	45	28,156,162	42,122,000
1833	57	46,142,466	83,306,000
1838	61	48,700,000	84,200,000
1843	36	60,000,000	96,100,000
1849	27	53,166,600	—
1856	24	47,000,000	—

Of late years the duty of the Cornish steam-engine appears to be slightly on the decrease, but this is in some measure due to the employment of fuel of an inferior description. In the year 1838, the Messrs. Lean reported the average duty of 61 pumping-engines as amounting to 48,700,000 lbs. of water raised one foot high by the consumption of 94 lbs. of coal, and in the year 1856, Mr. Thomas Lean reports 24 engines as having

consumed 19,578 tons of coal, which raised 160,000,000 tons of water 10 fathoms high, or 56,000,000 tons lifted 1 foot high by 112 lbs. of fuel, which is equal to 47,000,000 lbs. raised through the same space by the expenditure of 94 lbs. of coal. This shows a decrease during 18 years of 1,700,000 lbs. per bushel of coal consumed. Mr. Browne, who, in 1856, reported on 22 pumping-engines, gives an average duty of 35,500,000 lbs. of water raised 1 foot high by 112 lbs. of coal, but his system of reporting being dissimilar to that of Mr. Lean, the relation between the two results is not readily apparent. It has been before observed that no marked improvement in the duty of the Cornish engine has been effected for many years, and it may be remarked that but little increase in the economic performance of this machine can be anticipated until steam of higher pressure and expanded to a corresponding degree be employed. In order to accomplish this object a longer cylinder might, perhaps, be advisable, whilst such modifications could at the same time be introduced in the valve gearing, and the mode of admitting steam on the piston, as should, in a great measure, avoid impact, and, at the same time, afford the advantages due to high tension. This idea is, to a certain extent, gaining ground among Cornish engineers, since one of them has proposed to lengthen the cylinder, and do away with the parallel motion by running the piston rod in guides. He also suggests fixing the steam valve on the cylinder cover, and the equilibrium in the piston. Whether these propositions are in accordance with increased economy, experiment alone can determine.

WATER PRESSURE ENGINES.—In localities in which a high fall of water can be procured, the water-pressure engine may frequently be employed with advantage. In this machine the power is obtained by means of a descending column of water acting by its weight on a piston working in a closed cylinder. The credit of inventing this machine appears to belong to Hungary; but various Saxon engineers have also devoted considerable attention to the improvement of this apparatus, and have succeeded in bringing it to a great degree of perfection. The first pressure engine in this country was constructed under the superintendence of Mr. Westgarth, in the year 1765. Smeaton afterwards modified and improved Westgarth's machine in an engine which he constructed in Yorkshire. Trevithick also devoted a considerable amount of attention to these engines, and has since been followed by Dean, Armstrong, and Darlington. The pressure engine may be either single or double acting. In the former case the piston is moved in one direction by the pressure of a column of water, and returns to its original position by the action of a counterpoise weight, whilst in the latter the piston is alternately acted on either side by hydraulic pressure. The admission and discharge of water from the cylinder is effected by cocks, valves, or pistons, acted on by proper plug gearing, but for large engines piston-valves are preferable, as being less liable to derangement. One of the most powerful single-acting hydraulic pumping-engines erected in this country was designed in the year 1842, by Mr. Darlington, for the Alport Mines, in Derbyshire. The principal dimensions of this machine were as follows:—Diameter of cylinder 50 in.; stroke 10 ft.; plunger-pole 42 in. in diameter; pressure column 132 ft. in height; length of plunger-lift 140 ft. The total pressure in this case was 50 tons, or 58 lbs. per square inch, and the power employed equal to 168 horses. One of Mr Darlington's most recent engines is represented in diagram 4. The cylinder stands on two cast-iron bearers fixed across the shaft; the piston-rod works through the cylinder bottom, and is a continuation of the main rod working the pumps. In front of the main cylinder is a smaller one, with differential diameters for the admission and emission of water, and right and left are sluice-cocks for regulating the speed of the engine; connected with the feed-cylinder is a third, of still smaller dimensions, provided with regulating cocks. In starting this engine the sluice-valves and regulating-cocks are opened, and the water from the pressure-column flows into the cylinder, acting upon the piston, until the up stroke is completed. The feed-piston is connected with another of larger diameter, and when relieved from pressure on its upper surface, the water acting between them forces it upwards, by which movement the pressure from the main column is cut off, and the water contained in the cylinder becomes free to escape through apertures prepared for that purpose. With the emission of the water the down stroke of the engine is effected. The downward motion of the feed-piston is obtained by the auxiliary cylinder and piston, the pressure of the water continually acting between them, and by their displacement by the fall-bob and canti-lever on the arbor, the water is either admitted or cut off from the upper piston of the feed-cylinder. The motion of the canti-lever is produced by plugs on the main rod acting on a horn.

PIT WORK.—The pumps employed for the drainage of mines were formerly made of wood, but are now almost universally constructed of cast-iron, and vary in diameter in accordance with the work they have to perform. Pumps are, however, seldom less than 4 in., and not frequently above 24 in., in diameter. The pit work of a mine usually consists of a series of pumps, delivering their water into cisterns, placed on bearers thrown across the shaft, in which are placed the windbores, or lower extremities of the lifts, next in succession. Both drawing and force-pumps are employed for this purpose, but the bottom lift is generally a drawing-pump, and those placed above it force-pumps, or plungers. The drawing lift very closely resembles the ordinary pump employed for domestic purposes. A plunger-pump, 42 in. in diameter, was erected by Mr. Darlington, at the Alport Mines, in 1841.

HAULING.—In order to remove the produce of a mine to the surface, buckets, called kibbles, made either of wood or sheet-iron, are employed. The size of these necessarily varies with the nature of the power to be used for lifting them. Until a shaft has reached a depth of 10 fathoms, the only lifting apparatus generally employed consists of a windlass, or tackle, worked by manual labour. The kibbles and their ropes are, in most instances, arranged in such a way as to pass each other in the shaft, so that whilst one bucket is coming up the other is descending. When the shaft has been sunk beyond this depth greater power is required, and horses, water, or steam, are resorted to in order to obtain the required motive force. When horses are used, the machine employed is called a "whim," and is simply a large windlass, placed vertically, and fixed in the neighbourhood of the shaft. This machine consists of an upright axle, turning in a socket at its lower extremity, and at the upper end working in a bearing supported by a heavy horizontal beam. Around the upper portion of this axletree is constructed a cage, or drum, around which is wound the rope to which the kibbles are attached. The arrangement is also provided with a long horizontal arm to which the horses are attached, and in order to convert the horizontal motion of the ropes round the drum into a vertical motion in the shaft, they are passed over pulleys set in a wooden framework, called the "poppet-heads," or "shaft-tackle," erected over the mouth of the shaft. Steam is seldom employed for hauling from shafts less than from 40 to 50 fms. in depth, and an engine is not often put up until after the value of the mine has been somewhat established. In Cornwall the low-pressure engine is generally preferred, but in other localities small horizontal high-pressure engines are often employed. The machinery used in Cornwall for this purpose is more expensive than that employed in collieries, whilst the speed of the rope is not only less, but the weight at a draught is, on the whole, not so considerable. The monthly engine reports of Mr. Browne, show that for the year 1854 twelve engines raised 35,833 kibbles from a mean depth of 139 fathoms, and that the average duty of these machines amounted to about 15,500,000 lbs. raised one foot high by the combustion of 112 lbs. of coal. Most of the Cornish winding-engines have been designed with a view to the utmost economy of fuel; but it is to be doubted if the engineer always succeeds in this way in effecting a real saving of expenditure, since it must be recollected that an economy of fuel, extending over a very long period, will be required to compensate for the difference of first cost and the resulting interest on outlay. The difference of expense between hauling by steam and horse-power has been estimated at 50 per cent. in favour of the former; but this is certainly less than the true result, and in deep mines it would be found all but impossible to remove the stuff broken by horses alone. The following table affords some interesting particulars relative to drawing-engines employed for mining purposes:—

DRAWING ENGINES EMPLOYED FOR MINING PURPOSES.

Name.	Character of Engine.	Diameter of Cylinder.	Length of Stroke.	Number of revolutions per minute.	Speed of piston in feet per minute.	Pressure of steam on piston per square inch.	Mean diameter of drums.	Speed of rope in shaft per minute.	Weight of load drawn.	Tons drawn by day or of eight hours.	Depth of Pit or Shaft.	Diameter of drawing pulley.
		in.	ft. in.		ft.	lbs.	ft.	ft.	cts.		yards.	ft.
South Sea Colliery	Vertical spur gearing	20⅜	4 6	60	450	40	10 & 8	945 & 750	20	250	130 & 165	7
British Iron Works	Horizontal direct link motion	24	4 6	35 to 50	315 to 450	50	11 & 11	1400	20	400	160	8
Bryn Malley Colliery	ditto	26	5 0	40 to 60	400 to 600	45	9 & 11½	1130 & 1440	20	400	140 & 210	7
Minera Lead Mine, No. 1	ditto	14⅛	3 0	50	300	14	5	250	26	100	120 150 170	7
" No. 2*	spur gear	14⅛	3 0	50	300	15	4½	250	25	100	100	4½
"	ditto	14⅛	3 0	50	300	15	4½	250	25	100	—	5
Average of mines of Cornwall	Vertical condensing	22	5 0	15 to 20	150 to 200	12	4½	150	10	—	Variable.	5

* 200 tons, if from two pits.

MECHANICAL PREPARATION OF ORES.

PICKING.—The ores which are extracted from the mine are not usually sufficiently rich in mineral to enable them to be smelted without being first subjected to sundry mechanical operations. As they are but sparingly diffused through the lode, and are mixed with large quantities of unproductive stone, a preliminary sorting takes place in the mine itself. The miner separates those fragments which do not appear to contain any portion of metallic matter from those which have a certain proportion of ore diffused through their substance—the former being allowed to remain in the mine, where they are employed for filling up certain portions of the excavations; whilst the latter are transported by means of either barrows or wagons to the shaft, and subsequently conveyed to the surface. They are now generally washed under a stream of water falling on a coarse grating or perforated iron plate, and divided into at least three classes:—1. The gangue, or stony matter, which is rejected.—2. The rich ore, or best work, which in the case of copper or lead ores are frequently sent direct to market.—3. The fragments, which, although containing but a small quantity of mineral, are, nevertheless, too valuable to be thrown away.

CRUSHING AND STAMPING.—Before the ores so prepared can be further concentrated they must be first reduced to the proper degree of fineness, and are, for this purpose, subjected to the action either of a crushing or stamping-mill. The crushing-mill consists of two strong iron rollers, set in motion either by steam or water-power, working in a framework of cast-iron, firmly secured by screw bolts to heavy wooden bearers. The bearings of these rollers are so arranged as to slide in grooves, and, consequently, admit of the cylinders being either advanced or separated to a greater distance. To prevent accidents to the machine from the passage of large fragments of stone too hard to be broken, a certain degree of elasticity is given to the arrangement by means of levers, which by a sliding bar and shoulder constantly tend to keep the surfaces of the two grinding cylinders in contact, since the other extremity is loaded with an iron box containing heavy weights. The ore to be crushed is allowed to fall gradually between the two rollers through a hopper, the weight on the lever being so adjusted as to suit the degree of hardness of the mineral to be broken. On passing through the rollers, the crushed ores fall into the upper extremity of an inclined cylinder of coarse wire-gauze. This being set in motion by the same machinery as the rollers themselves, divides the pulverised ore into two classes—the one passing through the meshes of the trellis, and falling into a suitable receptacle placed beneath it for that purpose; whilst the other, which is too large to pass through the apertures, is carried to the lower end of the cylinder, where it falls into the buckets of a kind of inverted water-wheel, by which it is again carried to the level of the rollers, for the purpose of being re-crushed. The average expense of crushing copper ores by water-power may be taken at 2½d. per ton.*

The poorer varieties of ore, and especially those of tin, instead of being crushed by rollers, as above described, are pounded into small fragments by means of heavy pestles, set in motion either by water or steam power. The machinery by which this is effected is called a stamping-mill, and is provided with a large horizontal axle, furnished with a series of cams arranged in spirals around it. Vertical wooden or iron beams are so attached to large masses of cast-iron, that, when raised by the cams fitted into the axle and corresponding tongues in the lifters, they fall on the mineral beneath them, and thus, by repeated blows, reduce it to a fine powder. The cams are so arranged in the spirals that each lifter shall give three blows during a revolution, and as soon as the first lifter has been released from the cam and begins to fall, the second cam in the series comes in contact with the tongue of the next lifter, and so on until each has in succession struck a blow, when the first lifter is again caught by the first cam belonging to the second system on the axle, when another series of blows is dealt by the several pestles. The lower portion of this arrangement is enclosed in a strong wooden trough, or "cofer," in which are openings, into which are fitted gratings made by punching holes into thin pieces of sheet iron. By means of a launder, a small stream of water is made to flow continuously into the cofer, and therefore, whenever fragments are sufficiently reduced in size to allow them to pass through the gratings, they are carried off by the water into pits, in which they are deposited by subsidence. The weight of the pestles usually varies from 300 to 400 lbs. each, and the number of blows per minute given by each lifter may be from fifty to seventy. The bottom of the cofer is either formed of a large block of cast-iron, or of a consolidated mass of hard vein stone, which has become solidified by the constant action of the pestles. The latter arrangement is more commonly employed in this country, but cast-iron beds are much used all over the continent of Europe.

The expense of stamping in this country by steam-power 1 ton of ordinary stuff, sufficiently fine to admit of the separation of the tin which it contains, may be taken at 1s. 3d., and in some instances tinstuff, containing only about 15 lbs. of merchantable tin in the ton, has been raised and dressed with considerable advantage. Tin ores are usually dressed to a produce of about 70 per cent., lead ore from 50 to 75 per cent. Copper ores when broken from the vein in Cornwall may be estimated to give an average produce of less than 2 per cent., and are commonly concentrated by mechanical preparation to about 6¾ per cent.

DRESSING.—The principles on which is based the concentration of metalliferous ores are exceedingly simple, but the arrangements employed for this purpose are very varied, and are modified in accordance with the nature of the minerals to be operated on. If a number of particles, varying in form, size, and density, be held in suspension in a current of water, or allowed to fall through that medium, they will arrange themselves in accordance with the resistance they experience from that liquid. If their form and size be the same, but they vary in density, they will arrange themselves in the order of their respective specific gravities, the lightest forming the upper and the heaviest the lower strata of the series. If, on the contrary, their form and density be the same, but the size different, the larger fragments moving more rapidly than the others, will arrive first at the bottom, and from the lowest stratum of the deposit. This arises from the circumstance that although their volumes increase as the product of their three dimensions, the resistance offered by the fluid increases only as the product of two of those dimensions, and, therefore, the resistance in the case of the largest fragments is proportionately less. If the granules have the same volume and density, but differ in form, those which expose the least amount of surface will fall most rapidly through the water, and form the lowest layer. It is, therefore, evident that the particles of ore to be dressed should be reduced as nearly as possible to the same dimensions, in order that they may more freely subside in accordance with the order of their several specific gravities. Each of the fragments operated on must evidently belong to the three following classes:—The first class will consist of the mineral sought, without any admixture of earthy matter. The second will comprehend the fragments which are made up of a mixture of ore and earthy substances; whilst the third will be composed entirely or earthy matter, without any admixture of ore. By a perfectly successful washing, these three classes would be entirely separated from each other, but in practice this degree of perfection can never be wholly obtained, although the results very closely approximate to the theoretical deductions. The coarser fragments of ore, which have passed through the crusher, are generally concentrated by jigging, whilst the finer, and those that have been reduced by the stamping mill, are enriched by washing in currents of water, varying in their force according to the nature of the ore and the minuteness of its state of division. The methods employed for washing the reduced ores differ not only with the nature of the minerals, but also according to the locality in which the mines may be situated, and I shall, therefore, confine my observations on this subject to a description of some apparatus which we have recently erected, for the washing of lead ores, at a mine producing large quantities of argentiferous galena, associated with carbonate of iron. I would, however, remark that the chief distinction between ancient and modern ore dressing consists in the circumstances that, whilst in the former the mineral to be treated was subjected at intermittant periods to numerous successive operations, it is in the latter so manipulated that the particles are never allowed to deposit themselves, but the operations are continuously carried on until clean ore is obtained on the one hand, whilst the waste is separated on the other. The diagram No. 6 exhibits the general arrangement of the crusher, with its various additional machinery. The ores, on passing through the rolls, fall into a circular sifter, which separates the finer particles from the coarser, which are returned by the raff wheel, to be again crushed by the rollers. The ore, which is thus sufficiently reduced in size, and has passed through the rotating sieve, is carried by a stream of water into a second rotating apparatus, formed of perforated sheet iron, by means of which the sand and slimes are removed and washed into the buckets of a small water-wheel, whilst the coarser particles escape by the open end of the cylinder, and are removed to the jigging machines to be further cleansed and separated. The finer particles of ore, and the current of water in which they are suspended on falling into the buckets of the wheel, cause it slowly to revolve, and during its revolution time is allowed for the minerals to settle, in accordance with the size and densities of the particles. The result obtained is, that the heavier sands fall to the bottom of the buckets, whilst the lighter slimes are poured out of the wheel and carried off through suitable launders to the slime pit. The sands remaining in the bottom of the buckets are washed out by means of jets of water obtained by a pressure of about 15 feet in height, admitted behind the centre, and are thus carried off to round buddles, where their concentration is further effected. The tails of these buddles are thrown away, as being of no value; the middies are rebuddled in the same machine; and the heads, after being subjected to washing in a hand buddle, are passed to the dolly-tub, and from thence carried to the smelting house. The slime pit (diagram 7) is in the form of an inverted cone, the slimes being admitted in one of its sides by means of a divided head-board, whilst an aperture in the opposite direction admits of the escape of the water and refuse matters held in suspension. As the water passes very slowly through this arrangement, all the more valuable portions of the slime are deposited at the bottom, and are continuously let off by means of the plug valve, over the surface, either of Brunton's cloths or over sleeping tables. The conical slime pit and slime separator were first introduced by Captain Isaac Richards, of the Devon Consols Mines. The round buddle (diagram 8) consists of a conical floor, from 18 to 20 ft. in diameter, over which the sands are distributed by means of a launder emptying itself through a revolving funnel, supported by a central cone of hard wood or cast-iron. This apparatus is furnished with arms carrying long brushes, which are constantly drawn over the surface of the deposit, and assist in carrying the lighter particles to the outer edge of the circle.

* See *Records of Mining and Metallurgy*, by PHILLIPS and DARLINGTON. Published by SHOW, Buckiersbury, and the *Mining Journal* office, 26, Fleet-street.

CONCLUSION.

Although the metalliferous productions of this country annually amount to at least 35,000,000*l.*, and the prosperity of Great Britain is in no small degree dependent on her mineral resources, it must be admitted that, even when most judiciously and skilfully conducted, mining operations are more or less hazardous and uncertain in their results. When taken in the aggregate, however, there can be no doubt but that this industry is highly remunerative. It is a common saying, that "all is dark before the pick's point;" and hence, since the miner is unable to see what lies before him, he is not unfrequently, however cautiously and judiciously he may have proceeded, disappointed in his anticipations of profit, and finds, after incurring a large expenditure of both time and money, that his judgment has been at fault, and that his expenditure has been unremunerative. If, however, we take the average return made by well-selected and judiciously-managed undertakings, we shall find that it amounts to from 12 to 14 per cent. on the market value of the property, and if to this be added the increased value of the mines themselves, this amount will be very materially increased.

The mining engineer should not only be well acquainted with the principal facts of geology, mineralogy, and chemistry, but, above all, possess extensive experience in his profession, and be acquainted with all the details of mining operations, and consequently should have received a sound scientific education, and had long and practical experience. The management of the mines of this country has usually been confided to individuals who, by their industry and intelligence, have raised themselves from the ranks of the working miner to the position of mining captain, and who, therefore, possess a far larger amount of practical knowledge than of theoretical acquaintance with their business. Although it cannot be denied that experience is far preferable to theoretical knowledge, it will nevertheless be admitted that the two combined will be found more advantageous than either taken separately, and that a sound education is, in all cases, a good foundation on which the superstructure of experience may be subsequently erected. When but one alone of these qualifications is attainable, there can be no doubt but that the practical man is to be infinitely preferred to the theoretical, but as a knowledge of facts deduced from the observations of others materially facilitates the acquisition of fresh knowledge from our own experience, it is to be hoped that the mining community of this country will not fail to avail itself of the advantages to be derived from the school in Jermyn-street, and that, on the other hand, the students on leaving that establishment will not consider that theory alone, or any mere course of elementary study, can make them miners.

As I have before remarked, mining, when most judiciously conducted, is, to some extent, a speculative occupation, but when, on the contrary, the management of mining undertakings is confided to inexperienced and incompetent persons, the result becomes a certainty, and total failure is the consequence.

Meetings of Mining Companies.

SORTRIDGE CONSOLS MINING COMPANY.

The quarterly meeting of adventurers was held at the London Tavern, Bishopsgate, on Tuesday, Mr. W. A. THOMAS in the chair.

Mr. COHEN (the secretary) read the notice convening the meeting, and the minutes of the last, which were confirmed. The following report was then read:—

April 24.—I beg to hand you my report, which I have prepared after a careful survey of the mine, for the meeting to be held on Tuesday next, showing the work done during the past three months, and pointing out the most promising objects to be attended to during the ensuing quarter. Hitchins's engine-shaft, in regular course of sinking below the 74 fm. level, at 15*l.* per fm., is down 7 fms. 1 ft. 4 in. on the course of the lode, and the lode will average 3 ft. wide, containing capel, mundic, peach, and occasionally a little ore. The ground is of a soft congenial character, and the shaft will soon reach the required depth for an 86 fm. level, when drivings will be extended east and west there on the course of the lode in the usual way. At Hitchins's engine-shaft, the 74 fm. level east, which is being driven for 3*l.* per fm., has been extended 10 fms. 4 ft., or a total of 13 fms. 4 ft.; the lode for the greatest part of this distance is in disordered ground, and unproductive. The 74 west, which is driving for 3*l.* 15s. per fm., has been extended 13 fms. 3 ft., or a total of 16 fms. 3 ft.; the lode varies in size from 1 to 3 ft. wide, and is composed of capel, quartz, mundic, peach, and occasionally good stones of ore, altogether promising. The 62 east has been extended 10 fms. 2 ft., and the lode for this distance proved to be large, 3, 4, and 8 ft. wide, composed of capel, mundic, quartz, and ore, worth in places 1 ton per fm.; this drivage is now being carried at 3*l.* per fm. on the north part of the lode, which is of the same general character, containing stones of ore of rich quality, and I have every reason to expect an improvement as the north and south parts come together near the present end. A cross-cut has been put out south 6 ft., and through the lode immediately under Crossman's winze, where the lode proved to be a mixture of capel, quartz, mundic, and a little ore. About 7 fms. of the south side of this level have been stoped away, and the lode is found to be composed of capel, mundic, peach, and in places ore worth ⅛ ton and 1 ton per fathom. The 62 fm. level has been extended west 7 fms. 5 ft. 9 in., and the lode proved to be small, 1 and 2 ft. wide, yielding stones of ore only occasionally; this drivage is suspended for the present, to admit of a rise being put up in the back thereof. The rise is up 4 fms. 1 ft. 6 in., and the lode, which is promising, will average 2 ft. wide, composed of mundic, peach, quartz, grain, and a little ore; the present price for rising is 3*l.* 10s. per fm. The 50 has been extended 13 fms. west, and is now being driven in a northerly direction, to the west of the cross-course, in ground for progress, and congenial for mineral; price for driving, 2*l.* 15s. per fm. The rise in the back of this level, which was up 3 fms. 3 ft. at the last meeting, has since been communicated with the 40 fm. level above, and the lode for the whole height proves 2 and 3 ft. wide, and more or less productive, being worth ⅛, 1, and 1½ ton of ore per fm. The 50 has been extended east of the cross-cut, on the south lode, 7 fms., and for the last 3 fms. the lode has showed improvement; it is 3 ft. wide, containing more quartz than when first driven on, as well as occasional stones of very rich ore, and altogether it may be considered promising; the present price for driving is 1*l.* 15s. per fm. The 40 has been extended west on the south branch 5 fms. 1 ft. 3 in.; the branch is 3 in. wide, composed principally of quartz. The 40 has been extended north 5 fms. 5 ft. 3 in., and intersected the lode; and the drivage is extended on the course thereof 2 fms. east and 4 fms. 4 ft. west; the lode will average 2 ft. wide, composed principally of quartz, mundic, peach, and a little ore. The lode in the present end west, which is being driven 4*l.* per fm., is 3 ft. wide, and promising. The lode to the north is accompanied by a s[oft] e[lv]an, an indication always considered good. In the back and bottom of the 50 fm. level east about 30 fms. have been stoped, and the lode has yielded 3 tons of ore per fm. The stope in the back is still of the same value, and that in the bottom 2 tons of ore per fm. There are seven pitches working, at an average tribute of 8s. 6d. in 1*l.* The most encouraging points at present are the 74 west, the 62 west and 62 east, and the 50 west of the cross-course, where the congenial nature of the country and other indications lead us to hope for an improvement. The ore reserves throughout the mine are equal to 350 tons, and we calculate on sampling 60 tons per month, at a cost of about 45*l.* per month.
JAMES RICHARDS.

A statement of accounts was exhibited, an abstract of which appeared in the *Mining Journal* of April 24.

The CHAIRMAN said the apparent deficiency arose from the fact of three months ore being set against one sale of ore, and the real profit was 102*l.* 5s. 3d., so that they were not going back in the world. They had really cash at the bank, including 120*l.* on deposit at interest, 1540*l.* 11s. 4d.; owing for carriage, 49*l.* 8s. 11d.; and, in addition, a parcel of copper ore, sold April 22, computed 138 tons, including carriage, 890*l.*, the outstanding liability they had being 72*l.* for dues: making a total balance in favour of the mine (estimated), 2408*l.* 0s. 3d. As they had made no discovery to warrant the disposal of their money, he should suggest that it stand over. But if there was nothing very brilliant about the report, there were promising points, and they had got enough money to continue operations. He (the Chairman) had just come from Tavistock, where he had seen Capt. Richards, and according to the report he gave him, it was a promising adventure and as long as it was paying, with such congenial ground, he would go on for ever with it.

Mr. ISLIP said he would put his usual question, whether anything was owing?

The CHAIRMAN replied everything was charged up and paid monthly. It was the habit of mining keeping back the cost.

The report and accounts were then unanimously received and adopted, and the committee of management re-elected.

The meeting was then made special, for the purpose of altering the fourth rule of the company. At the present time they were obliged to sample every two months, and the accounts would show a loss, in consequence of three months' cost being on some occasions set against one sale of ore. A resolution was then proposed, seconded, and carried unanimously, that the fourth rule, which directed meetings to be held every three months, should be rescinded, and that in future they should be held every four months, unless otherwise directed by the shareholders.

Mr. ORR observed that the alteration did not bind the committee to any particular time. The next meeting would be held in August.

A vote of thanks to the Chairman terminated the proceedings.

SOUTH CUDDRA MINING COMPANY.

A general meeting of shareholders was held at the offices of the company, Austinfriars, on Wednesday, Mr. G. P. NICHOLLS in the chair.

Mr. CHARLES (the secretary) read the notice convening the meeting, and the minutes of the last, which were confirmed.

The reports of the committee and Capt. Truran were next read, as follows:—

In reporting what has occurred since the last meeting, your committee regret having to state that the operations in the gossan lode in the 40 fm. level have not been successful, but the prospects in this part are still encouraging for deeper levels. Steps would have been taken for sinking the engine-shaft to much deeper levels had not a new feature presented itself, in consequence of the draining and opening the adjoining mines, Regent's, Bell's, and Kemp's lodes, which, near the boundary, are at present yielding about 70 tons of ore per month above the 40 fm. level, and this result is obtained by working the mine by the third company. Under these circumstances we thought it advisable to postpone all operations for the present in the south part, and to concentrate the working on a north shaft which was sunk by former adventurers 20 fms. from the surface. We have sunk this shaft 17 fms. below the adit without the aid of pumping power, but at this point we have reached water. It is expected the Regent lode will be found very near the shaft in the 30 fm. level, at which depth levels will be driven through it, and the shaft continued on its course as soon as it is reached. Should the lodes mentioned before be found equal to what they are in the West Crinnis and Regent Mines, which is only reasonable to expect, the returns would certainly pay more than the calls. At the last meeting it was calculated that the call then made would carry on the works for three months, but the mines have been worked six months in the endeavour, if possible, to reach the north lodes before this meeting, we were obliged to obtain consent of the railway company, which impeded our progress. It will, therefore, be necessary, in order to meet our liabilities, to make a call, the amount of which we leave to your consideration.

April 24.—We have not sunk the north shaft since last reported on in consequence of being down to water; we have put down pumps, put up capstan and shears, and are now waiting for the consent of the railway company to cross the line with a wire rope to attach a pumping-rod from the engine; we expect the railway engineer here in a few days. The shaft is sunk 17 fms. below the adit; we calculate it will require three months to sink it to the 30 fm. level and cut the Regent lode, which is in whole ground throughout the shaft; this is generally a large master lode, and has been productive of much copper in the adjoining mines; there are also Bell's and Kemp's lodes to the north of this shaft, and all lying south towards Regent lode. It appears from the character of the ground in sinking this shaft that we have quite a congenial stratum for copper, and if the lodes should be found moderately productive, copper can be got very cheap; the cost will not exceed 65*l.* per month while the trial is being made in laying out this lode in the 30. Taking into consideration the little money required and the probability of laying open an extensive piece of ore ground, I consider it to be a desirable object. The south workings have not turned out as they promised in the adit level; an unfavourable stratum of ground fell in with the lode in this level, and operations have been discontinued there until the north lode is intersected.—S. TRURAN.

A statement of accounts was submitted, from which the subjoined is condensed:—

Balance last audit	£ 13 13 1		
Calls received	754 2 6		
Carriage	16 14 7	= £784 10 2	
Mine cost	£568 13 11		
Merchants' bills	150 2 5		
Sundry bills	63 2 3	= 781 18 7	
Balance in favour of adventurers		£ 2 11 7	

In the estimated account of assets and liabilities the balance against the mine was 781*l.* 14s. 9d.

The resolution adopting the report and accounts was then unanimously carried.

The CHAIRMAN said the next resolution was a very unpleasant one, as it was the same of call to be made, but they must have money to go on.

Mr. CHARLES said 2s. 6d. per share would give them 750*l.*, which would enable them to go on until the next meeting; but if they should be fortunate enough to cut anything good he should call the shareholders together immediately.

A call of 2s. 6d. per share was then unanimously agreed to.

Mr. TREMENHEERE hoped they would confine their operations to getting down to the point mentioned in the report.

Mr. CHARLES said that would be done. There was not a mine in the county which

ore work was done for the same money. They were most fortunate in getting the engine for 400*l.*, and they might estimate the value of the plant at 1000*l.* The Regent lode, in the neighbouring mine, produced 100,000*l.* worth of ore.

Mr. TREMENHEERE said they had every prospect of a good mine, if the shareholders would have the courage to go on with it, but they must have patience.

A vote of thanks to the Chairman terminated the proceedings.

WHEAL ARTHUR MINING COMPANY.

The general meeting of shareholders was held at the offices of the company, Crown-court, on Thursday, Mr. ALFRED RICHARDS in the chair.

Mr. THOS. WATSON (the secretary) read the notice convening the meeting, and the minutes of the last, which were confirmed. The following report was next read:—

April 28.—Old Lode: The 50 has been driven 37 fms., and the 40 about 20 fms. west, in the course of the lode, which is generally about 2 ft. wide, producing stones of copper ore occasionally, while the average cost of driving is 8*l.* per fm. There are two men in each end at present. We have sufficiently explored the deep adit west on this lode for 7 fms. in length.—North Lode: The 10 west is extended 70 fms. west, and now driving by four men, at 6*l.* per fm. About 15 fms. west we passed through a little ore ground, from which 15 tons of ore were stoped from the back, and although the lode has continued, and is still very promising, yet it has yielded little or nothing for the last 50 fms. driving. The 20 west is extended 14 fms. in unproductive ground; the lode in the end is more kindly, and as the little ore met with in the level above appeared to dip west with its cross-course (not cut in this level), it is possible a discovery might be effected by driving the 20 a few fathoms further west. The 20 east has not been driven. The 10 west was driven some time since 20 fms., which yielded in different places 5 tons of ore. The flat-rod shaft is sunk 30 fms. below adit, and our object is to get down to the 40 as speedily as possible, and then cross-cut north 8 fms. to Watson's lode, and 5 fms. to the north lode. The 50 cross-cut south has been driven 30 fms., about 6 fms. past the place where we expected to meet with the great south lode. Having gone through two very small branches 7 ft. behind the end, of no apparent consequence, and the ground being hard, driving is stopped until the deep adit cross-cut south intersects Calstock Consols lode, distant about 12 fms. it is supposed. There are six pitches working by twenty men in the north lode, at 11s. 6d. in 1*l.* average tribute. Dormer's pitch continues worth 20*l.* per fm., and Buckingham's 12*l.* per fm.—Eastern Mine—Old Lode: The water is drained as far as the 20 fm. level, but we do not intend going deeper until the 20 cross-cut north reaches the north lode in about four months' time. The 20 is driven east 82 fms., and it is surprising to find only a few fathoms of ore ground worked away by the former company; the lode in the present end is disordered by small cross-courses, and contains a quantity of mundic, with a good deal of water issuing from it—driving by six men, at 6*l.* 10s. per fm. About 50 fms east there is a winze sunk from adit to the 20 fm. level, and from which winze an intermediate or 14 fm. level has been driven 30 fms. east to the cross-course, and about 8 fms. west. There is a small extent of ore ground taken away in sundry places in this level, and it is evident we shall meet with good tribute ground, as we have already discovered some excellent quality ore in Jane's stope, immediately east of the aforesaid winze, in the bottom of the 14 fm. level; the lode in this stope is worth fully 6*l.* per fm., and working by four men, at 55s. per fm. The 20 west is communicated with the western part of the mine, along which level we are preparing to carry the eastern mine water, to be drawn to surface by the 60-in. cylinder pumping-engine for supplying the water machinery. We have 12-in. lifts attached to the engine, at very little water in the western part of the mine.—North Lode: The adit level is driven 8 fms., the last few fathoms of which has averaged worth 8*l.* per fm., while the lode in the back is worth 12*l.* per fm. There are upwards of 100 fms. in length west on the course of this lode to be explored, all in entirely new and untried ground, and which will, no doubt, prove productive, as we have obtained 50,000*l.* worth of ore from this lode during the last six years in the western part of the mine; and the 20 cross-cut north, now driving by six men, will lay open a valuable mine, it is to be hoped, when the said lode is discovered.—T. CARPENTER.

A statement of accounts for two months ending March was submitted, from which the subjoined is condensed:—

Cash in hand last audit	£321	8	7		
Calls received	678	0	0		
Ore sold and carriage	486	4	2	= £1485	12 1
Mine cost, Feb. and March	£800	15	2		
Merchants' bills and lord's dues	139	14	1		
Law charges	12	3	10		
Committee, secretary, auditors, &c.	26	19	8	= 979	12 9
Cash balance in favour of adventurers				£ 505	19 4

The CHAIRMAN said the mine had improved since the last meeting, as a discovery had been made in the eastern part. It might be remembered that at a former meeting a long discussion arose as to whether it was desirable to drain this portion of the mine, which they determined upon doing, and the result was an important discovery in whole ground, and the captain was of opinion that it would improve in depth; and as they had two good pitches in the western mine, he (the Chairman) had no doubt that by the next meeting the returns of ore would be larger than at present.

Mr. T. WATSON observed, that with respect to the merchants' accounts they appeared much larger than usual, which arose from the extra pitwork, and materials required for the eastern part of the mine: 62*l.* 10s. of the arrears of call had been received since the accounts were made up, and the total amount now due was 411*l.*

Mr. FOORD (an auditor) said the accounts were kept in a very straightforward way, and it reflected the greatest credit upon the secretary for the manner in which the books were made up.—A resolution adopting the report and accounts was unanimously carried.

The CHAIRMAN said the next question was the subject of a call. The cost for the next two months would be very heavy, and was estimated by the captain at from 900*l.* to 1000*l.* (inclusive of stock of coal, about 50*l.*) The balance at the bankers was 505*l.*, the ore sold was computed at 365*l.*, the arrears of call 411*l.*, and of the latter item the committee calculated upon about one-half being paid-up before the next meeting. The total receipts might, therefore, be estimated at about 1075*l.*, and the liabilities 545*l.*, and, deducting the cost, there would be a deficiency of about 470*l.* for the next two months; it would be, therefore, necessary under such circumstances to make a call to meet the expenditure; and the committee, after deliberating for some time, came to the conclusion that the only way to meet the difficulty was to make a call of 10s. per share, at the same time the amount he left in the hands of the meeting. If they carried on the mine to a successful issue, they could not expect to do so without money, and the prospects had certainly much improved since the last meeting. He hoped they would not only make discoveries, but reap some benefit for their outlay, and his conscientious belief was that they would; at the same time, his only anxiety was to give them the true state of their property.

Mr. FOORD moved that a call of 10s. per share be made.

Mr. MITCHELL enquired whether the arrears of call in any case were larger than the market value of the shares?—The CHAIRMAN replied that the sale of the shares in the Stannaries Court would more than cover the arrears.

Mr. STOCKER seconded the resolution for the call, which was carried unanimously.

The SECRETARY said, in consequence of a resolution at the last meeting, the list of defaulters had been handed over to the solicitors of the company, with a view of endeavouring to obtain payment; and upon the present occasion a further resolution was necessary to put them in the Stannaries Court,

Mr. PETER WATSON enquired whether every name of those in arrear was given to the solicitors?—The SECRETARY: Every name was given.

The CHAIRMAN had never found any instruction given that was not carried out. There were three which the solicitors considered that applying to them would be useless expense—one who had altogether left the country, another who had died and his estate had not been administered to, and a third holding one share, whose letters for some time past had been returned.

After some discussion as to whether the last call should be included in the proceedings, a resolution was unanimously passed that the list of defaulters in arrear of calls prior to Feb. 25 last should be handed to the solicitors, Messrs. Hoppe and Boyle, for the purpose of proceeding against them in the usual way in the Stannaries Court.

The committee and auditors were re-elected, and a vote of thanks to the Chairman terminated the proceedings.

ACTION TO RECOVER MONEY PAID AS DEPOSITS ON SHARES—CLARK v. DIXON AND OTHERS—COURT OF QUEEN'S BENCH, APRIL 26.—

This was an action brought by a shareholder in the Welsh Potosi Lead and Copper Mining Company against the defendants, who were two of the directors, to recover back the deposits which he had paid upon his shares, upon the ground that he had been induced to become a shareholder by the defendants' fraud. At the trial it appeared the scheme of the company had been formed in the year 1853, for working some lead and copper mines in Cardiganshire, which were represented to contain a fabulous amount of mineral wealth. The concern went on for some time and a dividend was paid, payment of which the plaintiff consented to take in additional shares. Ultimately the speculation became bankrupt and was wound-up, and he plaintiff made a contributory. He then brought the present action, which came on for trial before Lord Campbell, at Guildhall, at the sittings after last Michaelmas term. In the opening of the plaintiff's counsel Lord Campbell expressed an opinion that the action could not be supported. His lordship said that, as the plaintiff had acted upon the contract and had derived benefit from it, he could not treat it as void, but he might bring an action for the deceit. His Lordship thereupon nonsuited the plaintiff. Subsequently he court granted a rule to set aside the nonsuit, and to have a new trial, which rule now came on to be argued. Mr. Knowles, Q.C., Mr. Edwin James, Q.C., Mr. Dowdeswell, and Mr. Aspland, for the several defendants, showed cause against the rule, which was supported by Mr. Serjeant Kinglake, Mr. Phinn, Q.C., and Mr. Horace Lloyd for the defendant. Mr. Justice Erle said he was of opinion the nonsuit was right. The plaintiff claimed to be at liberty to return his shares and have back his money; but he could not do that, upon the ground that he could not return them in the same state in which he took them. The mine had been worked from the year 1853 to the year 1857, and during that time the plaintiff was watching the produce, and if valuable ore had been brought up he would have been entitled to share in it. He had thus taken his chance of the produce for three or four years. In the next place, a profit had been made and divided, and, though the plaintiff had been paid by other shares, that was just the same as if payment had been made in money. In the third place, the nature of the shares had been changed, for originally the company was a voluntary partnership, but the plaintiff had concurred in causing the scheme to be registered as a company with limited liability. The offer to return the shares was not made till after the concern was ruined and was being wound-up.—Mr. Justice Crampton expressed himself to the same effect.—Lord Campbell said he continued of the same opinion as he was at the trial, and that the plaintiff's remedy was a special action against those who had defrauded him. If that was made out he would recover damages equal to what he had lost. Rule discharged.

IMPORTANT COLLIERY CASE—SPECIAL RULES TO BE CERTIFIED.—

On Monday, at Oldham, John Holland was charged with having broken one of the special rules of the Hope Colliery of the Chamber Hall Colliery Company, at Hollins; requiring that no workmen shall proceed along any jig or engine brow, while the rope or chain is in motion. The defendant, on the 17th April, after repairing an accident to the rails, gave a signal to send some empty wagons down, while he and two others were in the brow. Before they could get away, one of the wagons, getting unhooked, dashed down the brow at a fearful rate, knocked a boy down, and broke his arm. Mr. Ponsonby, solicitor, conducted the prosecution on behalf of the company, and called the underlooker, who produced a printed copy of the special rules, a copy of which had been furnished to everyone employed. Mr. N. Worthington, one of the magistrates, said they should require proof that the rules were certified under the hand of one of the inspectors, under the 15th section of the Act. Mr. Ponsonby proposed to call Mr. Booth, the manager of the company, to prove that the rules had been duly sent to the Secretary of State, and not objected to within forty days, and must, therefore, be the special rules under the 5th section of the Act. The mayor said the magistrates would accept no other evidence than that of the certification of the rules by an inspector. Mr. Booth, the manager, said he had applied to the inspector, who had refused to certify them. The magistrates offered to adjourn the case for a week, or to give time for a letter to be procured from the Secretary of State, acknowledging the receipt of the rules, and agreeing to them. Mr. Ponsonby said he was instructed to ask for the dismissal of the case. The Bench said they did not consider that wise, but they would do so if asked. Mr. Booth said the rules were those which had been agreed to by the Coal Association of Lancashire and Cheshire; that prior to their being sent to the Secretary of State, the inspector had seen them, and did not object to them; and that their receipt by the Secretary of State had been acknowledged. The mayor said it was possible to get the rules certified. Mr. Ponsonby said the Act did not compel the inspectors to certify them. Mr. E. A. Wright, magistrate, said he understood that a document had been sent by the Secretary of State, to show that he approved of the rules. Mr. Jackson, chief constable, said that it was a printed circular, stating that the Secretary of State did not object to the rules.—The Mayor: That is the very proof we want. The parties then left the Court, the mayor stating that if any similar case came before them, they shoul d dismiss it, unless the requisite evidnce was produced as to the special rules.—*Manchester Guardian.*

MINING NOTABILLA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

WHEAL FLORENCE SILVER-LEAD MINE.—This is the mine at Lydford, Devon, referred to in the Journal of last Saturday, under the name of Cascade Mine (given it by mistake), and of which information is desired. The mine was originally opened about 10 years ago, and, after being more or less worked for about 5 years, was abandoned as a lead mine hardly worth further prosecution, in ignorance that the ore contains silver, which it does in a preponderating quantity rarely met with. On the recommencement of the mine a few months ago, by clearing the adit level Capt. Knott made the important discovery that the lode is valuable for silver rather than lead, and from the back of the adit, at about 10 fathoms under the surface, silver-lead ore of extraordinary richness is being raised at a cost very trifling in comparison with its value. Amongst the ore broken there are excellent specimens of the kind commonly called "ruby silver," some of them containing nearly half pure silver and some native silver, of which a fine and beautiful piece is now in the offices of the purser, Mr. Paull, solicitor, Plymouth. The lode is a north and south one, and its size and character highly favourable, giving indications justifying a strong opinion being entertained that it is still better deeper, independently of the evidence in favour of such being the case, from the fact that in the rubbish pulled up from the bottom of the mine (now under water) stones of remarkably good grey silver ore have been found. The following is a copy of the report of Messrs Johnson and Matthey of their assays of stones of ore selected as samples at the mine by Mr. E. S. Codd, of Plymouth, and made for his and his friends' satisfaction:—

Assay Offices, 78 and 79, Hatton-garden, April 14.—The three specimens of mineral assayed for Mr. E. S. Codd, produce respectively the following proportions of fine silver to the ton of 20 cwts. ore:—No. 1, galena (argentiferous), 1086·250 ozs. of fine silver. No. 2, ditto, ditto, associated with white carbonate of iron, 592·150 ozs. of fine silver. No. 3, sulphuret of silver, with a small proportion of native silver associated with lime and quartz, 4532·500 ozs. of fine silver.—JOHNSON AND MATTHEY.

Nos. 1 and 2 came from the back of adit, and No. 3 was found in the rubbish from the bottom of the mine. The sett is extensive, and of such a length on the course of the lode as to afford an ample field for operations upon it, and is besides one of rare eligibility for water-power developing by adits and mining purposes generally. The dues are 1-15th, and the water-power is available at an almost nominal rent. A great deal has already been done in the mine by means of which its development will be much accelerated at a very considerable saving of outlay. There is an engine-shaft down 10 fms. under the adit from which levels have been driven, and it is intended, in addition to the present workings in the adit, forthwith to erect a water-wheel to drain and explore the mine and sink it deeper, operations that may proceed expeditiously, the wheel-pit and shaft being already fit to receive the wheel and pumping machinery. The mine is about three miles to the north of Wheal Betsy (for a considerable period a profitable lead mine), and about four miles to the north of the well-known Wheal Friendship.

CROOKHAVEN MINE.—A handbill to the following purport has just been circulated:—"Stolen, a large piece of the capstan rope from the Crookhaven Mine. Any person giving such information as will lead to the conviction of the party or parties who have taken the same will receive a reward of 5*l.*" From what has transpired about this most malicious, and I may add roguish act, of cutting in short pieces and carrying away from the mine a 9-in. rope of superior quality, the reward offered is nothing more nor less than a farce; indeed, it seems only calculated to screen the guilty party from the strong arm of the law, and fictitiously attempting to fix the act on unknown parties. If there be proof of the parties cutting and carrying one piece of the rope, is it unreasonable to ask whether they are not guilty of the whole? Be this as it may, it looks vastly like it. Why, then, offer a reward when the law is evaded—yea, very civilly overlooked? I am informed this property is in Chancery, and it would be wise, as well as the duty of the officials to look well, and sift this matter to the bottom. By so doing, I doubt not that, instead of the ends of justice being defeated, as appears to be at present, it would be fully answered by prosecuting the parties known to be implicated, instead of offering a reward. The only motive in addressing you is simply to put parties connected with mining properties on their guard, and if right men are put in right places I would guarantee that we should not hear of valuable capstan ropes being cut up in short junks and carried away with impunity; besides, it would put a stop to the trade of this class of rope merchants.

LEAD MINING ON THE ST. LAWRENCE.—In another column of this day's Journal, we publish the prospectus of a company formed for working some valuable lead mines on the St. Lawrence. The capital is fixed at 60,000*l.*, in 6000 shares, of 10*l.* each. The mines are situate seventeen miles from a good shipping port, whence there is free navigation to the various markets of the United States; there is also good railway communication from Antwerp to New York by the Watertown and Potsdam Railway, and Antwerp is only 17 miles from the mines. There are two mines—The Rossie, which was worked by an American company prior to 1856, and the 30 fm. level reached, and the Victoria, where the 15 has been attained, and large quantities of ore were extracted therefrom. The cost of conveying the lead from the mines to New York is from $8½ to $10 (1*l.* 14s. to 2*l.*) per ton. Lead imported into New York from foreign countries pays an *ad valorem* duty of 15 per cent., from which the company's lead is exempt, the county of St. Lawrence being in the Union. About 800 shares remain to be issued, and the names on the prospectus are highly respectable. The works will be prosecuted in accordance with the recommendations of Capts. Trelease, H. Thomas, and W. Thorne, who have inspected the property, and expressed a favourable opinion of it.

TOLVADDEN MINE.—At a full meeting of shareholders of this discovery, held at Marazion (the president and purser, Mr. A. Bennett, in the chair), the accounts were audited by three of the adventurers, specially deputed, who bore testimony of their correctness and the perfect order in which the books were kept, when they were unanimously passed and allowed. The thanks of every one present, amounting to near 40, from all parts, were given to the purser for his liberal and straightforward manner of conducting the mine, his freeness and affability in communicating information to each shareholder, and their feelings were more than once expressed that through his exertions in checking anything like imposition, and providing the best materials, an immense saving of expenditure had been effected, and no call had been or would be required, the ore risen and sold having proved ample, with what is now for sale, and their appearances underground, warranted the purser in telling his fellow-shareholders he hoped at Christmas to give them a dividend. The benevolence of Mr. A. Bennett cannot be too excessively made known; here it is fully appreciated, and has few parallels. Sweeping reform is taking place, and a favourable mining era is dawning on the district. The highly mineralised and well defined lodes, together with its favourable geological position, have not been understood, or, at any rate, successfully worked, for the past ten years. We have now every reason for believing that, with the experience of the purser of Tolvadden, that of his brother, Capt. George Bennett, and the very able agents and miners employed, and who have been brought up in the locality, and in whom the most implicit confidence is put, that several mineral lodes will ere long be opened on, and the shareholders who have embarked their capital in the same will be amply rewarded.

DEVON GREAT ELIZABETH.—They have just got on the back of the lodes, and have broken therefrom some beautiful stones of mundic and copper. From present appearances it is anticipated that they will commence the engine-shaft on the lode, from which they will no doubt be breaking some good work for copper ore.

EAST WHEAL RUSSELL has nearly recovered in price the position she held previous to the report received on Friday last, of the falling off in the value of the lode in the winze. The last report from the mine states that the lode is fast resuming former appearances, and worth about 40*l.* per fathom. The present sampling will be upwards of 90 tons, valued at 900*l.*; this will leave a good profit upon the two last months' work. The fluctuations in the value of the lodes has produced increased confidence in the minds of sound practical men, and they look now upon East Russell as possessing the necessary features to insure permanency. It is not perhaps generally known that the Duke of Bedford, in consideration of the large outlay this company has made, has granted, or is about to grant, not only a new lease, but also an extension of ground, the importance of which to a mine of such promise cannot be to too highly valued.

MINING IN CUMBERLAND.—The Wheal Henry (Helvellyn) Lead Mining Company are likely to reap a rich reward for their outlay. They have cut blue and white lead and carbonate of copper in their upper level; and in the long level, 45 fms. below, they have the same description of ore. They are now putting a rise in order to communicate with the upper level, and anticipate great results, as there is every reason to expect the ore holds up. They have begun a level 25 fms. lower down the mountain, with a view to come under the silver-lead ore gone down for 40 fms. in length, the lode 6 ft. wide, but they only touched the back of the lode, and in putting a sump 6 ft. they came to solid ore, with carbonate of copper and quartz; they have great expectation from this level. A zest has been given to mining in the North, and the lords of the manors are holding out a helping hand by a reduction of the dues; the mineral wealth in this county will reward them.

The LADY BERTHA DISTRICT bids fair to become one of great repute: there are some young mines in the neighbourhood which would, in every probability, make quick returns with the outlay of a small capital. Several fine lodes traverse the district, that make ore shallow, and are worthy of the inspection of miners and capitalists. The credit of bringing this district into repute I believe is due to Capt. Wm. Goss, who, it is expected, will be amply repaid for his exertion and perseverance in the South Lady Bertha Mine: a better lode and pile of copper ore than he has discovered and broken so shallow cannot be seen; and, as they are about putting in a new water-wheel and forking the old workings, there is every prospect of the mine being profitably worked.—**BUCKLAND CONSOLS**, in the same district, it is reported is to be actively set to work shortly: this is a good sett, and promises, from what has been done, a successful mine. I have seen some fine stones of copper ore broken there.—**EAST LADY BERTHA** is another promising sett; as fine specimens of copper ore and gossan are broken on the lode as can be seen: it deserves a good company. What has been done by old companies in some of these concerns is so much cost in favour of the parties who shall carry them out. Depend on it they will make mines.

WREY CONSOLS.—The lode in the adit level driving east has been daily improving, and a box of specimens has been sent to London for the inspection of the shareholders.

CHACEWATER.—From the favourable reports handed down from father to son respecting a mineral property, situate near Chacewater, and known as Wheal Howl, a few individuals, with Capt. John Tonkin, who was for many years connected with the St. John del Rey Mines, and who has recently returned from a successful mining exploration on the coast of Africa, have secured a grant of the sett from the lords. Long ago all traces of the old workings had disappeared, as the shafts had been filled in, and the surface levelled and cultivated; but during the past month successful search has been made for one of the old shafts, sunk, it is supposed, 150 or 200 years ago. When at a depth of about 12 fms. the *employés* discovered a large quantity of copper ore, of superior quality. A stone taken promiscuously from the heap, and assayed by Mr. Bray, made a produce of 15½ per cent. of fine copper. Many hundredweights of ore, of similar quality in appearance, are being picked out of the debris, and the only reason to be assigned for its being so long left is that copper ores could not have been so much valued at the period of its being worked by the primitive miners as tin, small specimens of which are sometimes found; and from the fact of the back of the lode being all worked away, no other inference can be drawn than that it must have been wrought exclusively for tin. Several old miners and mine agents declare that they have never in their experience seen anything so promising. The discovery has attracted unusual interest in the neighbourhood. Wheal Daniell adit communicates with the old workings, and will be of immense service to drain the present and future workings to a depth of about 30 fms.

FOREIGN MINES.

ALTEN MINING ASSOCIATION.—Estimated produce for March:—

Mines.	Ore.	Per cent.	Copper.
Raipas	50	5½	2·750
Old Mine	65	4¼	2·762
United Mines	10	6½	0·650
Michell's	9	6	0·540
Thomas's	6	11	0·660
Total	140		7·362

Mining report from March 22 to April 5.

RAIPAS.—The lode in the stope under the 20 continues in a disordered state; we are, however, still following the pipe of ore, in the hopes of its opening out more productive again. In the 10 the prospects continue encouraging, and at present we calculate on being able to raise sufficient from this stope to meet the deficiency in the 20; the lode is 4 feet wide, containing good work throughout. We have driven the shallow level about 4 ft., where the indications are favourable, and we expect in another 6 ft. to cut some of the small branches seen at surface. The winze sinking under this level is making fair progress: the lode is 2 ft. wide, containing purple ore, and looks highly promising.

OLD MINE.—Owing to the long Easter holidays, settings, &c., our usual operations during the past fortnight have been greatly interrupted, so that on the whole there is but little change calling for remark in any of the workings. Nos. 1 and 2 winzes are not yet communicated, but we expect to break through in a few days; the grownd has latterly been hard in both places, and the progress has been slower than we had anticipated. The working westerly from No. 1 still looks very promising, and yields good work; and when better ventilated, which is soon expected, we fully calculate on more remunerative returns than shown in the above estimate. We have latterly taken the percentage low, to prevent any great disparity on the delivery of the ore at the smelting-house; it is, therefore, probable it may turn out higher on being assayed.

WOODFALL'S.—Returns for March are better than for some time past, and the lode in a place or two still looks pretty well; but as the ground accessible at this place is very limited, we cannot hold out hopes of there being anything permanent.

MICHELL'S.—As the level under the lobby continues wet, with branches of quartz traversing the greenstone, we propose driving it a fathom or two further, to make sure if anything is gone down. We have now three pitches working here. The prospects are encouraging.

THOMAS'S looks much the same as before—from 12 to 15 in. wide, and turns out a fair quantity of yellow ore.

LUSITANIAN MINING COMPANY.—Thos. Chegwin, Portugal, April 17:

PALHAL.—Basto's Lode: Taylor's engine-shaftmen have completed cutting the plat in the 38, and next week we shall resume the sinking of the shaft below that level. We have began to drive the cross-cut, north of Taylor's engine-shaft, by six men, in the 38, towards Basto's lode; the ground in it is a hard schist; consequently, our progress will be slow. The lode in the 28, driving west Taylor's engine-shaft, is 1½ ft. wide, composed of quartz, with a small branch of copper ore, worth ½ ton per fm. The lode in the 28, east of Taylor's engine-shaft, is 2½ ft. wide, composed of quartz and felspar; the ground about it is favourable for driving through. The lode at River shaft, sinking below the 18, is 2½ ft. wide, composed of quartz and felspar, spotted with lead, copper, and mundic, but nothing to value. The lode in the 18, driving east of River shaft, is 3 feet wide, the south part being of hard quartz, and the north part being of soft quartz and prian. The lode in the 8, driving east of River shaft, is 1½ ft. wide, composed of flookan and quartz, with a small branch of copper ore on it, worth one-third of a ton of ore per fm. The lode in the adit level, driving east of Pinto's shaft, is 1 ft. wide, worth 1 ton per fm. The lode in the adit level, driving south-west on the slide lode, is 2½ ft. wide, composed of soft quartz and flookan, impregnated with mundic. The lode in the stopes No. 1, in the back of the 18, west of Taylor's engine-shaft, is 1 ft. wide, with a branch of ore, worth ½ ton per fm. The lode in the stopes No. 2, in back of the same level, west of Butler's winze, is 1½ ft. wide, worth 1½ ton per fm. The lode in the stopes No. 3, in the back of the 28, west of Taylor's engine-shaft, is 2 ft. wide, with a small branch of ore, worth ½ ton per fm.; this stope will soon be finished, the ore ground being nearly all taken away. The lode in the stopes No. 4, in the back of the 28, and east of the same shaft, is 2 ft. wide, worth 1 ton per fm. The lode in the stopes No. 5, east and west of Fontoura's winze, in the back of the 28, is 2 ft. wide, worth 2 tons per fm. The lode in the stopes No. 6, east of Oleveira's winze, is 1½ ft. wide, worth 1½ ton per fm., being in the back of the 28.—Mill Lode: The lode in the 18, driving east of the cross-cut, is 8 in. wide, worth ½ ton per fm. The lode in the 18, driving west of the cross-cut, is 1 foot wide, worth 1 ton per fm. The stopes in the 8, east of Antonio's winze, are suspended for the present.—House Lode: The lode in the 10, driving east of the old shaft, is 3 feet wide, composed of quartz and capel, spotted with lead, not enough to value. The lode in Pisco's winze sinking below the adit level, east of old shaft, is 1 ft. wide, composed of kilins and quartz. The ground at Oak shaft, sinking below the 10, is without alteration to notice.—CARVALHAL: The ground in the adit level, driving east, is much the same as for some time past.

WILDBERG MINING COMPANY.—Capt. Z. Walls, April 24:—We have taken the men for a day or two from the sinking of Carter's shaft, and put them to secure the Erz Kammer, on the Erbteifstergang. The cross-cut south, in the 10 lachter level from the aforesaid shaft, is now driven about four lachters, and I think got through the main part of the lode, but I am sorry to say we have not discovered any ore since the first branch, which I reported to the council some three or four weeks back, and we are now driving west on the same, which is worth at present 25 cwts. of silver-lead ore per lachter. The cross-cut driving north in the same level is proceeding well, and if the ground continues as it is at present, we shall reach the Dornergang lode by the latter part of August next. The driving the end west from the No. 3 sink, in the deep adit level, is proceeding satisfactorily, but the lode at present is rather poor. The driving west from the bottom of No. 2 sink is worth 2½ tons of silver-lead ore per lachter, and the stope in the back of the same is worth 3 tons per lachter. The end driving west in the middle level, from the No. 1 sink, has during the past week much improved, and is now worth 1½ ton of silver-lead ore per lachter. The drivings and stopes from the bottom of this sink are also producing fair quantities of silver-lead ore per lachter, but owing to so many of our miners remaining at home to till their land, we are unable to get as much ore to surface as we could provided they were regular at their underground work. At the Wilhelm stollen we have got through the gangue mass, and have reached the footwall of the lode, but we have found nothing of a very promising character, although at some future period I should like to drive west, so as to get under the pits where the stones of copper were found on the back of the lode; but at present we must take the men from this part to help clear and repair the deep adit, both east and west of the fourth lichtloch.—Mr. Goundry reports from the smelting-works, that the works and smelting processes have progressed very favourably. No. 1 cupola furnace is still in continuation with the smelting, but on Monday last it was started to reduce copper regulus, which I expect will be completed by Monday next, when the furnace will go out, to be repaired. No. 3 cupola furnace commenced to smelt lead ores on Monday last, and is working very favourably. The reverberatory roasting process for the ore was stopped on Monday last, on account of not having any suitable ores to roast. The calcining furnace was started on Monday last to improve the working of lead. It is expected that the crystallising process will be started next week, if all goes well.

Mr. James Crofts sends us the following remarks:—

The *Daily News*, which continues to ably disseminate daily mining intelligence, remarks, that "the public are, apparently, becoming weary of keeping their money idle, as is evidenced in the large investments made during the week in Consols and railways," and in introducing this fact as a text to our brief remarks, we have to add that nothing is more certain than that the public, having once again turned their attention to any kind of speculative investments, will in due course, also, be found enquiring after mines—indeed, towards the conclusion of the present week, which otherwise has presented no other aspect than that of excessive dulness, there is a more genial feeling perceptible, and in consequence a number of safe investments have been made; and, on the whole, the market, having passed the lowest point, may be stated as again on the advance. There yet, however, exists several causes opposed to the early restoration of complete confidence, which alone can make any particular market a brisk one, amongst which may be quoted the depressed condition of both the manufacturing and commercial interests, as is testified to by the advices from the great centres of industry; and since these are the sources of all movements concerned in changing the general tone of trade, and the diffusion of the capital of the country, we are not without hope that the extraordinary genial weather, added to the strong auxiliary to the establisment of a sounder state of things—the continued plethora of money—will shortly leave little for those concerned in any branch of British industry to complain of. It must be noticed, also, as a favourable element in the question, that all fears of political derangement have begun to fade into an indistinctness which augurs well for late apprehensions on this subject being speedily forgotten. The serious fall in Wheal Edward shares appears to have been scarcely justified by the circumstances of a sale of a parcel of ore of poor quality, it having been to some extent foreseen, although it might not have been so extensively known. A rally has already taken place from the lowest point equal to 10s. per share, and we can scarcely advise any other course than for holders to add to their stock at present rates. The shafts sinking will soon orginate deeper levels, from which larger returns of ore may be fairly expected; and if during the next three or four months, whilst this work is in progress, the mine continues to pay a balance beyond its costs, considerable profits will accrue after the work in question is accomplished; and even in the event of its being thought prudent not to pay any dividend at the next meeting, early in July, the mine will present a sound state of finances, an important item in all mines. Lady Bertha have not advanced during the week; large holders and speculators are sanguine of the future. East Wheal Russell have reached 6 to 6½. We hold a strong opinion that the rich ore produced by this mine is much in its favour as an investment, but well-informed parties do not attach an equal importance to the fact in the face of the constant and serious fluctuations in the value of the shares, since the sudden changes may be produced by artificial action upon them. It is said that the present sampling will be 94 tons, of not so good a quality as the last. Vale of Towy are less firm in price, and the weekly report shows a falling off in the total of ore produced by the stopes and pitches, which, of course, in a dull market, will always affect the value of the shares. On this subject, however, it is well to state that holders of shares should pay the slightest possible attention to mere passing changes, and look only to the average of monthly sales and expenditure. On the other hand, intending buyers will be wise never to omit availing themselves—where the concern is known to be solid and well conducted—of such depressed moments to invest. A rise of 20 per cent. has taken place in Margery shares; the sale of ore is 216 tons, yielding 1200*l.* The last quarter's average of copper ore was 5*l.* 4s. 9d., the present sales yield 5*l.* 15s. per ton. It is said the shares may advance very considerably. Most, if not nearly all, dividend stocks remain low in price; a fall of 1d. per lb. in copper having assisted in depreciating the value of copper shares, whilst tin (in which a slight rise has taken place) are rather more in favour. We are surprised at the apathy of the speculating public towards good dividend mines; but must own to many drawbacks even yet existing towards the establishment of perfect confidence in mines as investments; an instance of which we feel compelled to remark upon, in the spirit bearing upon a general question, in a mine called "Trevelyan" (in 2048 shares), now some time in existence, and the shares in which rose to 6½, and to which must be superadded a number of calls This mine figures in the Journal as *nothing* paid (whether by error or omission we are not able to say); and after a long course of working, the shares, costing about 8*l.*, have no appreciable value in the market. We may have occasion to enlarge on this particular subject in a future letter, and there appears ample room for discussion, when it is stated that the office in which this mine is managed has been remarkably prolific in the introduction of new mines, a list now before us showing that it has, or had, some years since, the care of 22 mines, out of which large number one only is at present paying dividends, whilst the fate of the remainder is tolerably well known. The responsibility for this state of things rests, as it would appear to impartial judgment, with the introducers of these mines to public notice, and not with the managers or *employés*; since it can scarcely be imagined that the public interests were adequately considered at the epoch of their introduction, or a larger proportion of success than is at present perceptible, and especially referring to what has taken place in other mining offices which could be referred to, must have resulted.

*** TAPPING'S PRIZE ESSAY ON THE COST-BOOK SYSTEM, enlarged and augmented, with Notes and an Appendix, can be had at the MINING JOURNAL office, 26, Fleet-street.—Price 5*s.*

Mining Correspondence.

BRITISH MINES.

ALFRED CONSOLS.—T. Trelease, T. Hosking, S. Uren, April 28: No alteration in the lode at Field's engine-shaft, sinking below the 160, since our last report, neither in the 160 cross-cut north. We have now commenced the cross-cut south in the 140, on the east part of the flookan, in order to intersect the lodes. The main lode in the 120, east of Davey's engine-shaft, is worth 35l. per fm., with a prospect of further improvement; this lode in No. 1 winze, sinking below the 110, is worth 60l. per fathom. The main lode in the 110 is worth 30l. per fm.; the south lode in this level is worth 5l. per fm. The main lode in No. 3 winze, sinking below the 100, is worth 90l. per fm. The north lode in the 70, east of the flookan, is improving in appearance, and is now about 2 feet wide, producing some good stones of ore. Nothing else new since our last.

ANGARRACK CONSOLS.—J. Barrett, April 27: Since my last communication there is nothing particular to report. Cox's engine-shaft is progressing as favourably as can be expected; it is now 8 fms. 5 ft. 6 in. under adit, with a view of reaching the 12 ere we require the engine. All the rest of the work—stays, bearers, and the pitwork generally—are being got ready with all possible speed. We have our 7-in. house water lift (26 fms.) on the mine complete, as also a 9-inch sinking lift that will reach 13 fms. under the adit level.

ASHBURTON UNITED.—W. Hosking, April 28: The masons are using all possible dispatch in building the engine-house, and are progressing favourably towards its erection. The wheel-pit and lobby are now completed, and we shall commence at once to erect the wheel and stamps. We completed sampling our tributers' ore for March on Saturday last, which weighed 101 tons of tinstuff, producing about 2 tons of black tin.

BALLYMONEEN.—W. Barkla, April 24: We are progressing slowly in sinking the winze below the 15, but since I wrote you last there is an improvement for sulphur, and looks promising to continue; we find the water quick. We are thinking on Monday morning to fix a lift of pumps, and hope the same evening to connect the rods to the engine, which will enable us to sink with more progress.

BALLYVIRGIN.—D. Macdonald, R. Pellow, April 22: The west cross-cut from the bottom of the engine-shaft still continues hard for driving; we have the same stratum of lime rock that we have had for several fathoms driving. We hear the hammers of the parties working in the stopes very distinctly in the present end. The lode in the north end is 2 ft. wide, and is worth 8 cwts. of lead and 2 tons of mundic per fm. No. 1 stope is worth 1½ ton of lead, 1 ton of copper, and 10 tons of mundic per fm. No. 3 stope is worth 2½ tons of lead, 1 ton of copper, and 10 tons of mundic per fm.; the lode in this stope is 9 ft. wide. We have suspended driving the south drift, and have put the men to take down the western side of the drift, to ascertain which side of the lode it will be more adviseable to drive upon. We have nothing new to report with regard to the costeaning party, and are still short of hands in the dressing department. We have put 8 tons of copper, 2½ tons of lead, and 20 tons of mundic to pile since last report, and have prepared a considerable quantity of lead and copper for the crusher.

BARF LEAD.—J. Graham, April 28: The lode in the end of Laidlaw's level is set to drive at 3l. per fm., which will open new ore ground; the stopes in the back of this level continue productive, and have several tons broken, which will be added to pile for dressing. We shall sink on the newly-discovered lode to prove its underlie and bearing, so that we may command this from one of our levels; according to present appearances now yielding blocks of lead, nearly 300 cwts.; it is likely to prove the main lode. The other operations are going on satisfactorily.

BASSET CONSOLS.—W. Harris, April 27: The Stacey lode in the deep adit end, west of the lead course, is 1 ft. 6 in. wide, improving for copper ore; it is driven by two men and two boys, at 50s. per fm. The new south lode in the deep adit is driven west of the lead course 7 fms.; lode in the end is 1 ft. wide, letting out a quantity of water, and sometimes producing stones of copper ore. The level above on this lode is driven 10 fms. further west, through a lode of copper ore, worth on an average 7l. per fm. The end is poor, now intersected by a slide; nothing new on the eastern side of the cross-course. I may remark that we are now driving on these copper lodes between the lead course (flookan), and the great county cross-course, where we have to contend with a quantity of heaves and slides; they are by no means unkindly for making good lodes.

BEDFORD CONSOLS.—J. Hodge, J. Mitchell, April 29: The lode in the shallow adit end is 2 ft. wide, producing stones of tin, mundic, and a little copper ore—a kindly lode; ground still good. In the south end we have no change to notice since last report. The lode in Williams's winze is still hard, also the ground, yielding a little ore, but not enough to value. In the middle adit the lode is full 10 ft. wide, with good rocks of black and yellow copper ore, prian, quartz, and mundic, altogether a beautiful lode; we fully believe that in a short distance further driving we shall have a good lode for copper ore; at present there is every indication of it. We have no doubt but that our engine will be ready to go to work by the middle of May. No other change to notice in any other part f the mine at present.

BEDFORD UNITED.—J. Phillips, April 27: The lode in the 148 east is 2 ft. wide, composed of spar, mundic, and ore. In this level west the lode is 3 ft. wide, producing stones of ore in places. We are driving by the side of the lode in the 130 east. Paull's stopes, in the bottom of the 115 east, will yield 5 tons of ore per fm., and Huggin's stopes 4½ tons per fm. In the 115 west the lode is 2 ft. wide, and worth 2½ tons per fm. Warne's stopes in this level are worth 3 tons of ore per fm. The lode in the 103 west is 2 ft. wide, producing 2 tons of ore per fm. We are driving by the side of the lode in the 35 east.

BODCOLL.—F. Evans, April 24: The 10 east has been driven this week 6 feet: total driven, 3 fms. 4 ft. 6 in.; the lode is producing stones of lead. The 10 west is producing a little lead; driven this week 6 ft.: total driven, 44 fms. 3 ft. 9 in. The men in both levels can hear each other working very plainly; we have from 2 to 3 fms. to hole.

BOG.—E. Rogers, April 27: In the end driving west at Perkins's level the lode is 3 ft. wide, and worth 15l. per fm.; price for driving, 5l. per fm. In the stope in the back of this level the lode is 18 in. wide, worth 25l. per fm., and stoping at 55s. per fm. In the rise in the back of the same level the lode is 2 ft. wide, and worth 35l. per fm.; rising at 3l. 15s. per fm. Our last parcel of lead ore, computed 22 tons, was sold to the Grit Company, at 13l. 18s. per ton; and the computed 5 tons of blende was sold to the Wynn Hall Spelter Works, at 3l. per ton. From the appearance of our dressing-floors, I calculate our next monthly sampling of lead ore will be just the same quantity as the last.

BOILING WELL.—J. Delbridge, April 24: We are cutting down and securing Austin's shaft with all speed, but having to draw from the deeper levels, we are not getting on so fast as we could wish. In the old engine-shaft we are cutting down the rise from the 50 to the 60. In the 60, east of King's, the lode is 1 foot wide, containing stones of ore, but not to value. In the 50 rise, east of King's, the lode is yielding stones of lead and blende. In the 40, east of Austin's, the lode is 1 foot wide, opening tribute ground. In the 30, east of Syrett's, the lode is 3 feet wide, containing good stones of copper ore, with a little lead. In the 20 west, on the same lode, the lode is 2 feet wide, kindly in appearance. In the 20, east of Syrett's, the lode is 1 foot wide, unproductive. In the 50, east of engine-shaft, on Hallett's lode, the lode is 6 in. wide, yielding some very good ore—tribute ground. At present we are not driving any cross-cuts, the men being engaged taking out the engine. Syrett's and Fielding's shafts cannot be sunk at present, in consequence of the surface water. Our copper sampling will be about the former price.

BRYNTAIL.—James Roach, April 29: The 10, driving east of No. 3 cross-cut, on the north part of Bryntail lode, is still producing cubes of lead ore and a mixture of the latter, a portion of which is reserved for being made marketable. No. 3 cross-cut, driving south on the lode, has greatly improved during the past week, it now produces splendid slabs of solid lead ore, together with good work for ore the whole width of the cross-cut, which has been judged by three mine agents to be worth 15l. per fm.; there still remain some 30 ft. to drive to reach the south wall of the lode.—P.S. The ore value of the cross-cut I estimate at from 12l. to 15l. per fm.; of course, the value of the lode, if this ore continues as we drive south, will be immensely enhanced.

BUDNICK CONSOLS.—R. Powning, April 24: I have this day been underground, and was agreeably surprised and satisfied with what I have seen, sufficient for me to say there is nothing wanted but good management, which I think under the supervision of the present energetic party, subject to the new arrangement, you will do what I would guarantee to accomplish had I the control of such a mine—raise 100 tons of black jack, 10 tons of silver-lead, and ½ ton of tin per month. In the 10, west of engine, the end is worth 3l. per fm. for lead and jack; the back of the same level is worth about 20l. per fathom for lead. The bottom of the 20, east of engine, is worth 12l. per fm. for jack; further east in the same level the lode is yielding a produce worth 25l. per fm. for lead and jack. The 30 is extended east of engine-shaft 70 fms.; the lode is 3 feet wide, the end at present poor, but in driving about 18 feet it will come into the same channel of ground as that in the bottom of the 20, where you are likely to meet with the shoot of lead gone down from the 20 above. I would advise your driving this end with all possible speed both by day and night; this is important, for as soon as you have extended your level 18 fms. further east you could sink a winze from the 20 to the 30, thereby effect a great saving, as the ground could be then stoped for 40s., whereas it now costs 70s. per fathom. The winze would also afford free circulation of air, consequently more hands would be employed, and your returns thereby increased.

BULLER AND BASSET UNITED.—G. Reynolds, April 27: On Saturday last I set the engine-shaft, with all speed, to six men and three boys, at 24l. per fm.; lode in the shaft much the same as when last reported. Also to stope the back of the 50 west, by four men, at 4l. 4s. per fm., where the lode is from 5 to 6 feet wide, mixed throughout with copper ore and mundic, and still has a promising appearance. Our engine and pitwork are in good order, and the men are working with spirit, and without hinderance.

CALSTOCK CONSOLS.—W. B. Collom, April 28: The 24 fm. level was commenced driving last week. In the 12 fathom level east the lode is at present 1 ft. wide, with a branch of ore and fluor-spar in the bottom part of the end, 4 in. wide. In the adit end east the lode is 1 ft. wide, orey throughout, and will produce from 1 to 1½ ton of ore per fm., and the lode opening larger. The lode in the stopes in the back of the 12 fm. level is without alteration, producing about 5 tons of ore per fm. We shall sample on Friday next 120 tons of ore, of good quality. The men are now engaged taking out the foundation of the engine-house for the 40-in. cylinder engine, recently purchased.

CAMBORNE CONSOLS.—W. Roberts, April 27: Nothing new since last report.

CARMARTHEN UNITED.—T. Williams, R. Sanders, April 29: During the past week we have been engaged in cutting the plat, which we hope to complete by the early part of next week; in doing this we have found the foot wall of the lode, which at this point is about 8 ft. wide, consisting chiefly of killas, intermixed with branches of lead throughout. In the adit end north there has not been much done this week, the men having been removed to the bottom, to assist in cutting the plat, so as to be able to drive north and south as soon as possible.

CARVANNALL.—W. Roberts, April 27: I cannot speak of any improvement in the levels since reported for the meeting on the 13th inst. The tribute pitches are turning out tolerably well, and we calculate on having broken about 35 tons of ore.

CARVATH UNITED.—R. Hancock: The engine-shaft is down to the 50, and we have begun to cut a plat at this level, this we should have done before if the water had not been in, through the means of the heavy floods of rain, which have thrown down so much water in the mine as took us a week to get in fork. Owing to this also the men could not work in the 40 or 50, but are now in good course of working throughout the mine. In the 40, west of engine-shaft, the lode is producing saving work for tin, 3 feet wide. A stope behind this end in the back is also producing good work. The stope in the back of the 30 is producing tin on the north lode. In the north cross-cut at the 20, we have just cut a lode which we believe to be a spring-off from the lode that we have been working on west of engine-shaft, but we cannot see enought of it to be certain about it at present. We have taken some stones from it producing tin. We shall be able to see more about this in our next report when dealed up.

CASTELL.—F. Evans, April 24: Our prospects for blende in the western stope are considerably fallen off, the best part of the lode having turned out into the old workings going down. The eastern stope has some good blende and a little lead, but it is rather tight for breaking. The future returns, in a great measure I fear, must come from below the adit, in opening new ground. The 10 west is being driven by six men, at 8l. 10s. per fm.; the lode is worth for blende 15 cwts. per fm. The new leat is finished, with the exception of a few days. Carpenters at work in making some launders.

CATHERINE AND JANE CONSOLS.—R. Harry: Saturday last being our monthly setting, the following bargeins were set:—The deep adit end to drive north-west, by six men, at 5l. 15s.; the lode is at present small and unproductive. To rise and stope in the back of the deep adit level, by two men, at 50s. per fm.; the lode is 3 ft. wide, producing 12 cwts. of ore per fm. The stopes south-east of No. 2 winze, by four men, at 55s. per fm.; the lode is from 4 ft. to 5 ft. wide, and will yield near 13 cwts. of ore per fm. To sink and stope in the cross-branch, by two men, at 70s. per fm.; the branch is at present producing from 5 to 6 cwts. of ore per fm. The south-east stopes are suspended for the present. No. 4 winze to sink, by four men, at 5l. 10s. per fm.; the lode is 18 in. wide, producing from 2 to 3 cwts. of good quality lead ore per fm., and promises to improve. We shall sample about 12 tons of ore on Saturday, May 1.

CEFN CWM BRWYNO.—April 27: The lode in the 80, west of the cross-cut from Taylor's shaft, is still large, and the part we are driving on is yielding about 10 cwts. of ore per fm. The lode in the 68, west of Taylor's shaft, is 4 ft. wide, and at present producing 15 cwts. of ore per fm. The stope over this level, 60 fms. west of shaft, is yielding 18 cwts. of ore per fm. The lode in the stope over the same level, 20 fms. west of shaft, is 3 ft. wide, yielding 10 cwts. of ore per fm. The lode in the stope over this level, 25 fms. east of shaft, is 4 ft. wide, producing 12 cwts. of ore and 8 cwts. of blende to the fm. The stope over the same level, 10 fms. east of shaft, is producing 14 cwts. of lead ore and 5 cwts. of blende per fm. The lode in the 56 or deep adit level, driving east of Taylor's shaft, is 4 ft. wide, with a very promising appearance, yielding from 16 cwts. to 1 ton of ore per fm.; this end is still letting out a good deal of water, which makes it rather troublesome for driving. The stope over this level, 60 fms. west of Taylor's shaft, is yielding 8 cwts. of ore per fm. The lode in the stope over the same level, 50 fms. west of shaft, is producing 14 cwts. of lead ore per fm. The lode in the stope over the 44, 25 fms. east of Taylor's shaft, is 3 ft. wide, producing at present 10 cwts. of ore per fm. The lode in the stope over this level, 25 fms. west of shaft, is about 3 ft. wide, yielding 8 cwts. of ore per fm. The lode in the stope over the same level, west of the slide, and 80 fms. west of Taylor's shaft, is 5 ft. wide, producing at present 14 cwts. of lead ore per fm. The cross-cut north in the 20, 4 fms. east of Taylor's shaft, is progressing favourably, and still letting out a great deal of water, but no lode is yet intersected. I am sorry to say that our dressing operations are impeded for the present in consequence of an accident which we had early on Monday last, the axle of the pumping and crushing wheel broke in two just between the two centres. The axle is too slight for such a large wheel but we hope to get this all right again by Friday evening next. We have ordered a new axle from Aberystwith, and when set to work we shall work as much overtime as we can to get forth and make up for lost time.

COLLACOMBE.—S. Mitchell, April 27: During the last month the 72, east of Morris's engine-shaft, has been driven 1 fm. 4 ft. 3 in.; the load is composed of capel, quartz, mundic, and rich copper ore. The 72, west of the western shaft, has been driven 3 fms. 5 ft. 2 in.; the lode is of a highly promising character, full 4 ft. wide, and composed of quartz, mundic, prian, and rich copper ore. The rise in the back of the 62, west of the western shaft, has been put up 1 fm. 4 ft.; the lode is 3 ft. wide, composed of capel, quartz, and full 1½ ton of good ore per fm. The 40, west of the western shaft, has been driven 2 fms. 3 ft. 6in., and the lode is composed of quartz, capel, and rich copper ore, producing saving work. There is no alteration to notice in any other part. We hope to sample about 230 tons of good quality ore on Friday next. The following bargains were set on Saturday:—The 84 to drive west of Morris's engine-shaft, at 3l. per fm. The 84 to drive east of Morris's engine-shaft, at 2l. per fm. The 72 to drive east of Morris's engine-shaft, at 7l. 10s. per fm. The 72 west of the western shaft, at 2l. 15s. per fm. The 62 east of Morris's engine-shaft, at 2l. 15s. per fm. The rise to put up in the back of the 62, west of the western shaft, at 4l. per fm. The 50 east of Morris's engine-shaft, at 3l. 10s. per fm. The 50 cross-cut to drive south of Morris's shaft, at 2l. 5s. per fm. The 40 to drive west of the western shaft, at 2l. 15s. per fm. All the kibble filling and landing in this mine for two months, at 20l. per month. All tramming in this mine for two months, at 10l. per month.

COLLEGE.—A. Braithwaite, B. Tucker, April 26: In the run shaft we have sunk 6 ft., which has produced 3 ton 5 cwts. of fine crop ore and about 3 cwts. of halvans; we have stoped 4 ft. of the level, which we calculate will produce another ton of best ore. The shaft is looking more promising for lead northward. The 10, driving north, is looking well for lead, though poor at present. We have got to the crushed ground, which will require timbering; we hope soon to arrive at the supposed lead ground. We have let the sinking of the sump at the bottom of the 20 to six men, for the sum of 24l., to be sunk 9 ft. deep, 9 feet long, and 6 feet wide, to put in pent-house, and hang a winze, to be completed in one month. We have sent this week 1 ton of lead to Armagh, and shall deliver another ton to-morrow. We have 1 ton 5 cwts. 3 qrs. in store, and about 1 ton 3 cwts. on surface. The office building will be completed this day.

CWM ERFIN.—April 24: We cut the lode this day in the 20 cross-cut south, which I find to be about 3 feet wide, with well-defined walls, and worth 1 ton of lead ore per fathom. This strengthens my belief that we shall trace this lode to surface. This, the 20 cross-cut, is 11 fms. 5 ft. south of tha north workings, the 32 about 11 fms., the 45 about 5 fms., and I think about the 57 we have the junction. In my report of Tuesday last I named the lode was split in two branches in the 45 going east; I am glad to say they have again united, and the lode worth at present from 1 to 1¼ ton of lead ore per fathom. The lode in the 57 east has slightly improved. All other parts are without any material alteration.

DALE.—R. Niness, April 29: We are still taking down the Pipe vein to the west in the 37, and find it to be good ore ground throughout; there is no appearance yet of the west wall. Johnson's lode and the rise in the back of the 20 east are much as last reported. We are clearing up the adit level where it passes through the Lum, and laying launders to take the water; this will be a great advantage, as it will prevent nearly the whole of the surface water from going down into the mine.

DEVON AND CORNWALL UNITED.—Thos. Neill, April 27: We have no change since last week. We hope to sample on Friday next 220 tons of ore.

DEVON BULLER.—G. W. Neill, April 29: The 56 cross-cut south, towards the south lode, is progressing satisfactorily. The 56 end, driving west, has produced some good ore in the past week, but at present the lode is to the end of a splice, which has caused it to be small. The lode in the 44 end west is 2 feet wide, with a good branch of ore on the south part, 4 in. wide, looking exceedingly promising. The lode in the 32 end east is 1¼ foot wide, principally composed of spar, mundic, and spots of copper ore. The two pitches in the bottom of the 32 west are improved. We shall sample on the 30th inst. 25 tons of ore.

DOLWEN.—F. Evans, April 24: Edwards's level is driven east 9 fms.; the lode is not taken down in the end this week. The lode taken down in the stope carries lead throughout; it is a large strong hard lode, worth 5 to 6 cwts. per fm.

DRAKE WALLS.—T. Gregory: Betteley's shaftmen are engaged in cutting bearer holes preparatory to fixing bearers, cistern, &c., previous to the fixing of standing lift; when completed the sinking will be resumed by nine men. The ground in the 90, east of Betteley's, continues hard and slow of progress. In the 92, west of Matthews's, the branches are producing saving work. In the 92 east the branches are producing coarse work intermixed with wolfram and mundic; the stopes in back of these levels are producing about the usual quantity of tin. The branches in the 80 east are producing a small quantity of tin; we expect an improvement at this point as we extend east. We have no change to notice in the 70 east; the stopes in back of this level are producing saving work. The branches in the 60 east are producing good work; the same remarks would apply to the stopes in this level. In the 70 cross-cut the cross-course is somewhat larger as we extend north, and is easier of progress, with occasional stones of copper ore. We hope to make some important discovery at no very distant period, on intersecting the north lodes.

EAST CARN BREA.—T. Glanville, April 28: I have nothing new to communicate since last week. All our operations are progressing as fast as possible.

EAST PROVIDENCE.—W. Hollow, T. Uren, April 27: Poole's shaft is down 3 fms. below the adit level, sinking at 7l. per fm.; the ground continues favourable, and water not much at present; we expect in about two months it will be down to a 10 fm. level. No change in the character of the lode since last report.—Wheal Mount Adit: In this level we have cut a branch which runs in an easterly and westerly direction; we have put the men to drive east on it, but as yet its value cannot be stated, as there is not much ground open. All other operations are carrying on as last reported.

EAST ROSEWARNE.—J. Delbridge, J. James, April 24: The lode in the engine-shaft is 1 ft. wide, yielding some good copper ore, and in very kindly prian and peach; from present appearance we are likely to have a change in the lode. In the 33 west the lode is 1 ft. wide, tribute ground, with a branch of rich ore 3 to 4 in. wide. In the 22 cross-cut south, towards south lode, south of Hanley's, ground favourable. We are cutting down Hanley's shaft towards the bottom of the 22; when this is completed we purpose driving east under Wheal Brook. In the 22 east, on north lode, the lode is 10 in. to 1 foot wide; for the last six feet the lode yielded 1 ton of good copper ore. The 22, east of King's lode, is unproductive. In the 22, west of ditto, the lode is 6 in. wide; from every appearance we may expect to meet with copper ore of good quality. In the 12 east, on the extreme north lode, the lode is 4 in. wide, yielding some good copper. In the 12, east, on north lode, the lode is 6 in. wide, yielding some good copper ore and tribute ground. In consequence of the rain we have not been able to sink Hallett's shaft for the past week. We feel glad to say in sinking Matthew's shaft we have a good-looking lode, which is about 5 fms. west of the 33 end. On the whole, the appearances of the mine are a little cheering.

EAST TAMAR CONSOLS.—G. E. Tremayne, April 27: The lode in the 40 south is not so productive as last reported, being divided by a horse of capel; it is altogether 4 ft. wide, and no doubt will soon again become productive, as there was a similar occurrence at the 30, about the same distance from the shaft, but which soon wore out, leaving a very valuable lode. In this level north the lode is 3 ft. wide, principally composed of fluor-spar, and worth for lead 12 cwts. per fm. The lode in the winze in the bottom of the 30 continues to look well, and is worth 10 cwts. of lead per fm. No alteration to notice in any part of the mine since last week.

EAST WHEAL RUSSELL.—J. Goldsworthy, April 23: We have taken down the piece of lode which we had standing on the ore part of the lode in the winze, where the lode has taken a flatter underlay; in this place the ore part of the lode has made small, and not worth more than about 20l. per fm.; the lode is of a promising character, and I hope, in a few feet sinking, the lode will again be of its former value; the lode, on the whole, presents a very fine appearance,

— J. Goldsworthy, April 27: We have to-day taken down a small piece of the lode in the winze, and the ore part of the lode is again opening wide, and I have every reason to believe, in sinking 6 feet, we shall again have a rich course of ore, by the present prospects of the lode.

— J. Goldsworthy, April 29: The ground in the 88 is much as last reported, the lode is split in two branches. The ground at Homersham's shaft is favourable for sinking. The lode in the winze sinking below the 66 is of a promising character, the ore part of the lode is opening large, and has every appearance of becoming a splendid course of ore in a few feet further sinking. In the stopes east of Williams's winze we have not taken down the lode this week. The tribute pitches west of Williams's winze are worth 1 ton per fm. We have three other tribute pitches working which are producing a little ore. There is nothing new in any other part of the mine to notice. Our sampling to-morrow will be, computed, 94 tons.

EAST WHEAL TOLGUS.—April 24: Redruth Consols Lode: In the 46, east of the engine-shaft, the lode is 15 in. wide, consisting of peach and spar, unproductive. In the 34, east of the engine-shaft, the lode is 18 in. wide, consisting of sugar-spar, peach, and mundic, producing good stones of ore, and has a promising appearance. The winze sinking in the bottom of the 22, east of the engine-shaft, is now down 14 fms. below the level, and we have about 6 ft. more to sink to communicate it to the 34. In order to effect the communication as speedily as possible, we have taken the men from the 34 end, and have put them to rise against the winze (the end being in); the lode in the winze is just the same in appearance as the lode in the 34 end. The lode in the rise in the back of the 22, east of the engine-shaft, is 1 ft. wide, unproductive. The lode in the 12 fm. level, east of the engine-shaft, is 2½ ft. wide, saving work for tin, and is also producing good stones of copper ore, and has a very promising appearance. The two stopes in the back of the 12 fm. level, east of the engine-shaft, are not looking quite so well as when last reported, but are still producing copper and tin ore. We have cased and divided John's incline shaft complete 15 fms. from the surface; we have about 7 fms. more to close timber and divide, and then we have about 7 fms. more to clear out the stull to bring us to the 12 fm. level. This last 7 fms. will not require timbering, only dividing and casing. The ground in the 12 fm. level cross-cut south is just the same as when last reported. North Lode: In the adit end, east of the engine-shaft, the lode is small and unproductive.

GARREG.—J. Trevethan, April 28: The lode in the 60, driving south, is 4 ft. wide, and intermixed with lead throughout. The lode in the same level, on which we are driving west, is without change, bearing its former size and character, and yielding occasional good lumps of lead ore, mixed with carbonate of lime. The pitch in the bottom of the 40, on the same lode as the 60 west, is producing very good work. The pitch in bottom of the 20 is yielding fair average stuff to enable the men to make wages. We shall sample 5 tons of lead for the next sale.

GAWTON COPPER.—J. Gill, April 28: At the 50 fm. level, both east and west, the ground is favourable for driving; no change in the lode in either of the ends to notice. We have suspended the 36 end for the present, and put the men to stope the back, where the lode is 6 ft. wide, worth from 10l. to 12l. per fathom. In Harris's stope, in back of the 36, the lode is 6 feet wide, worth 12l. per fathom. In Bickle's stope, in back of the 36, the lode is 5 feet wide, worth 18l. per fathom. In Daw's stope, in the bottom of the 24, the lode is 4 feet wide, worth 8l. per fathom.

GOGINAN.—April 28: The cross-cut north in the 60, or deep adit level, at Bryn-pica shaft, is progressing favourably by four men, and there are still several cross beds of ground dipping south in this end, which contain small branches of lead ore, and letting out a great deal of water. The cross-cut south in this level, 40 fms. west of Bryn pica-shaft, is without alteration since my last report; this end is also letting out a pretty deal of water, and the ground rather hard and troublesome for driving, still we are driving this end as fast as we can. The tribute pitches in the back of the 60 fm. level, west of Bryn-pica shaft (five in number), are yielding on an average from 12 to 14 cwts. of lead ore per fm. The cross-cut south from the boundary shaft, at the 55 fm. level, is being pushed on as fast as possible, by six men. The ground at this point is a little more favourable for driving, and the men are progressing satisfactorily. The lode in the 30, driving west of the cross-cut, north from the boundary shaft, on the north lode, is 5 ft. wide, with a promising appearance, yielding at present 1 ton of lead ore per fm.; this end is being worked by four men, and I shall be able to set a good long stope or a tribute pitch over this level at our next setting-day. The lode in the sink and stope in the bottom of the 120, 80 fms. west of Francis's shaft, is 4 ft. wide, and yields 1¼ ton of ore per fm.; this stope has been hindered from being worked for the last three days, in consequence of the water coming in, by means of a small stull which is broken down in the back of the 60 fms. level, 50 fms. west of Francis's shaft, and the water had to be turned down whilst we were clearing through it; this will be cleared and made all right again by to-morrow evening; the timber throughout the mine decays very fast. The tribute pitches in the old part of the mine are looking much as usual, yielding a pretty deal of ore. The dressings, &c., with all the other things are going on regular.

GREAT CARADON.—J. T. Penprase, April 23: Since the last report we have purchased about 20 fms. of 5 in. lifts, with plunger complete; we are preparing to fix the same as quickly as possible, and bring up the adit to carry off the water. We have sunk from the surface about 11 fms.; the width of the lode is about 1 ft. 6 in.—well defined, of a promising character. We hope in the course of next week to drop the lifts, and to sink with all speed. Since the last flood of rain we have been stopped sinking any further before the lifts are fixed and connected to the whim.

GREAT EAST TAMAR.—J. Richards, April 29: We have been securing the engine-shaft with timber; consequently, there has not been much done on the lode. I will write a full report next week.

GREAT SHEBA.—J. Spargo, April 29: The ground at Kelly Hall shaft is favourable for sinking; I have set the men to sink to the 20, at 12l. per fm.; the cross-course has left the shaft to the west. All the western part of the mine is set on tribute.

GREAT SOUTH TOLGUS.—J. Daw, April 28: The lode in Lyle's shaft, sinking below the 80, is 3½ feet wide, composed of mundic, quartz, peach, and copper ore—a very promising lode. In the 80, west of Lyle's shaft, the lode is 4 feet wide, producing some good ore. No lode has been taken down in the 80 east in the past week. In the 70 the lode is not so large, it is now 2½ feet wide, producing 5 tons per fathom. All other parts of the mine are much the same as when last reported.

GREAT TAMAR.—B. Robins, April 28: The lode in the north pit, where we opened on the eastern lode, is 5 ft. wide, composed of gossan, quartz, prian, mundic, and spots of lead—a splendid looking lode. We have commenced shoding further west, to open on the back of another lode, and have found some splendid stones of gossan in the shode pits, and hope to cut the lode in the course of a few days.

GREAT WEST SORTRIDGE.—J. Richards, April 29: In the 50, west of the engine-shaft, the lode is cut through, and proves to be 5 feet wide, composed of capel, quartz, mundic, and good stones of copper ore.

GREAT WHEAL ALFRED.—M. W. Mitchell, W. Bugelhole, W. Arthur, April 24: Copper-house shaft is sunk 10 fms. 2 ft. below the 180 fm. level, where the lode is worth 14l. per fm.; we purpose sinking it 9 ft. more, so as to cut a trip-plat below the 190 fm. level. The lode in the 180, west of this shaft, is 2½ ft. wide, worth 5l. per fm.; the lode in this end has an improved appearance, and promises further to improve. In the 170, a few fms. west of this end, we have made an excellent discovery in the north side; the lode is now worth fully 40l. per fm.; this lode, as far as it can be seen, seems to be a distinct lode in going east, which we have set to drive on to-day by six men. The lode in the 170 west, on the south part, is gradually improving, and producing some good work for copper; from the dialling, we have about 9 ft. more to cut the lode in the south cross-cut. The lode in the winze immediately over is worth quite 20l. per fm. The lode in the 160 end west is worth 25l. per fm. No change in the 148 fm. level. The lode in Robert's pitch, in the bottom of the 160, is worth from 80l. to 90l. per fm.

— M. W. Mitchell, April 27: I beg to inform your that our sampling to-day will be about 250 tons of rather improved quality ore.

GREAT WHEAL BADDERN.—J. Jenkin, April 27: In the stopes in the back of the 61 and in the bottom of the 51, east of No. 5 winze, the lode much the same as when last reported. All other parts of the mine are without alteration.

GREAT WHEAL BUSY.—J. Nancarrow, April 24: The engine-shaft is now cleared to the bottom, and is in the deepest part 7 ft. below the 100, but being gone through the lode, we proceeded immediately to cut ground in the north side preparatory to sinking. The 100 is extended west of shaft 26 fms.; not much ground taken away. We have commenced rising under Fielding's shaft; ground hard. In sinking this shaft below the 90 the ground is favourable, with good stones of ore. In the 98 west we are progressing fast; lode worth 16l. per fathom. We cannot yet report having cut into the lode under Chynoweth bottoms, but the indications are favourable. No alteration in any of the western levels. Having cleared Wheal Seymour shaft we are now clearing the adit. As the water abates we are getting on better with the condensing water level, and when this is clear I think a full supply may be be had, We have sold to the Bissoe Company 7 tons 10 cwts. 3 qrs. 25 lbs; black tin realising 418l.

GREAT WHEAL FORTUNE.—J. Daniel, R. Pryor, April 22: Harvey's shaftmen are engaged cutting ground at the 85 fm. level, preparing to fix a plunger lift; consequently the western end at this level is suspended for the present. The rise in the back of this level is up 1 fm. 3 ft., lode 4 ft. wide, saving work for tin. In the 70 cross-cut, driving south, there is no remarkable change since our last. In the 20, west of the cross-cut, on Conquer branches, the end is worth 6l. per fm. Painter's engine-shaft, on Carnmeal lode, is in fork to the 26 fm. level, which at this point is the bottom of the former workings. The shaftmen are at present engaged in bringing down the skips and cutting a plat at the 26, which when completed, we shall commence to sink below as fast as possible. A rich branch of tin was discovered yesterday in the bottom of this shaft, on the north part of the lode, which was not seen by the former workers, and worth 3l. per fm., is in whole ground going west, in which direction we shall drive immediately after the skips are brought down. The 26 fm. level is cleared east of shaft 22 fms. 4 ft. to present end, which is commenced to drive; the lode in this end is 2 ft. wide, worth 6l. per fm. We have cleared the old men's bottoms in this level about 6 fms. east of shaft, which was worked 2 fms. long, and 1 fm. 2 ft. deep. The lode here is 4 ft. wide, of kindly appearance, and worth 15l. per fathom. The water in this sink is too powerful to work it to advantage until it is drained by sinking the shaft. In the 20 west the lode is small and unproductive. In the 10 east the lode is 4 ft. wide, poor at present; in the rise in the back of this level the lode is 2 ft. wide, saving work. Hoskins's shaftmen are cutting a plat at the 10 fm. level, and will commence to sink below in a few days. In this level, west of shaft, the lode is 2 ft. wide, worth 5l. per ton. We have 26 pitches working by 64 men, at tributes varying from 8s. to 13s. 4d. in 1l.

GREAT WHEAL VOR UNITED.—T. Gill, April 27: We have forked the water at Bounder shaft since the breakage of the main rods 11 fms. 3 ft.; it is now down in the 260, and all our machinery is working well at present; there is no doubt but that we shall make good progress in draining the mine to bottom. I expect to be able to commence to lay the timber for the double skip to-morrow at Bounder shaft, and no time shall be lost in completing it to the bottom of the mine as soon as possible. There has been no alteration worth notice in the prospects of the mine since I reported last week. I will give you a detailed report of our operations and prospects next week.

— April 29: The drainage is progressing most favourably, the water is forked at the Bounder to 3 ft. below the 264. The machinery is working well throughout. We understand the prospects of the company are improving, and that the balance over returns is also very much reduced.

HARWOOD.—J. Race, April 23: In the cross vein going north the quantity of ore is about the same. The beds are running down fast, or dipping: it appears as if we were near some intersection. Roughrigg vein is about as last reported. We have got a few bings of ore finished dressing, but the hot weather has dried up the surface water, and we shall have now to cut a leat, or race, from the main stream; this will secure us a never-failing supply of water. I expect to have it level on Monday, and begin at once to cut it.

HAWKMOOR.—J. Richards, April 26: In the 60, east and west of the shaft, the lode is 2 feet wide, producing some good work for copper. In the 40, east of the cross-course, we have cut into the lode, which appears to be large, carrying a good leader of ore on the south part about 9 in. wide, and appears to be widening as we leave the cross-course, and from the productiveness of the lode now working in the bottom of the 30, I have every reason to expect profitable results will shortly be met with. At West Hawkmoor there s no change to notice; set to nine men, at 20l. per fm.

HINGSTON DOWN CONSOLS.—W. Richards, April 28: The lode in Morris's shaft is fully equal to last week's report, or 50l. per fm. for the length (12 ft.) In the 75 east the lode is improved, and will produce 4 to 5 tons of ore per fm. The lode in the 65 east full 4 tons of good ore per fm. We propose sampling on Friday, 30th inst., from 200 to 210 tons of average quality ore.

HOLMBUSH.—N. Seccombe, April 27: In the 145 west, in continuing the cross-cut south, another branch has been intersected, composed of flour spar and rich yellow copper ore, and where now seen will produce 1 ton of ore per fm. The ground by the side of the lode is also much improved. In the 145 south, on the lead lode, the lode continues, but at present is producing but little lead. In 160 east of diagonal no alteration in the end since my last; the men are still driving by the side of the lode. The stopes in the back of this level, east and west of Lemon's winze, continues to yield from 1 to 2 tons of ore per fm. In the 160, west of the diagonal, the men are still driving west through that portion of the cross-course that was intersected and mentioned in my report of last week, and which we are daily expecting to cut through, after which we expect to find the lode very soon. The stope in the back of this level, east and west of Stone's rise, is producing full 1 ton of ore per fm. In the 132 south on the lead lode, having driven south on the western side of the lode, we now propose cross-cutting through the main part of it, as we are getting under the lead ore ground gone down in the level above, where we hope to find an improvement in the lode. In the 145 west, on the flapjack lode, the lode in the end continues to produce full 1 ton of ore per fm. In the 138 cross-cut north, at Wall's, no lode yet intersected.

HUCKWORTHY BRIDGE.—J. Key, April 29: Since my last we have met with water in our new shaft, so much that it has impeded our sinking; consequently I have put the men to rise in the back of the adit against the shaft, and by doing that we have a chance to let down the water, and if so the men will resume the sinking again, as we have got a long way to wheel our stuff. The ground is favourable either for sinking or rising against.

KELLY BRAY.—S. James, April 24: The lode in the 135 east is poor at present. The lode in the rise in back of the 85 west is 3 feet wide, composed of peach, mundic, and ore, a kindly lode, here we are opening tribute ground. In the 45 west there has not been

any lode taken down during the past week. The stopes in back of the same level are yielding about the usual quantity of ore they have for some time; worth from 18l. to 20l. per fathom. In the cross-cut driving south in this level we in the past week intersected several branches containing rich copper ore, which indicates the lode is not far off. There is no alteration in the tribute department since last reported on.—Eastern Mine: Watson's engine-shaft has been sunk 10 fms. 2 ft. below the 40, and we intend to commence driving in the 50 next week towards the whim, in order to drain the water, so that it may be sunk dry. The cross-cut driving north in the 40 is progressing satisfactorily, and if the same favourable ground continues, we hope to cut the lode in about nine or ten weeks from this time.

LACKAMORE.—April 27: Saturday was our monthly setting-day, when the following bargains and pitches were set:—A pitch at the back of the 24, east of the engine-shaft, to four men, at 8s. in 1l. The pitch is looking promising, and for the past three weeks yielded 2 tons of very good ore (by two men), for the present month will yield 4 tons with four men. A pitch at the bottom of the 10 to two men, at 4l. 15s. per ton.; this is the first time I have set this pitch. A pitch over the adit level, east of Bryan's shaft, on the south lode, to two men, at 4l. 15s. per ton; yielded last month 1½ ton of ore, and will for the present month yield about the same quantity. The men formerly working the pitch over the adit, on the north lode, are now driving a cross-cut north from the large pit. They have already met with two excellent branches of red copper ore, and the ground is very kindly and easy for driving. I have set it to two men at 21s. per fm., and to have 10s. 6d. in the 1l. for saving the branches of ore in passing through them. I believe we shall open tribute ground in this place. The 24 to drive west to the south lode by four men, at 7l. per fm. The ground is rather tight for driving, but the lode contains nice branches of ore, worth about 1 ton per fm.; driven last month 2 fms. 1 ft. 6 in., yielded about 45 cwts. of ore, and leaving a promising stope in the back of the level. A winze below the 34, east of engine-shaft, to four men, at 6l. 10s. per fm.; sunk last month 10 ft., yielded 15 cwts. of ore. At the present time the lode is not rich, but it contains good spots of black and yellow ore, as well as mixed up with a very kindly spar. This same party are also engaged occasionally in clearing the drawing shaft, for which they have 11s. per fm. The drawing-shaft is now cleared 3 fms. below the 44. We have cleared the 34 east for 55 fms., at this time the back of the level is crushed down, and we are compelled to timber it, which renders our progress slow. The lode in this level is very large and soft, and neither of the walls were seen by the former party for the last 20 or 30 fms. The kibble filling is let at 5s. per hundred. Things generally are going on well, and we are hoping to set more pitches and bargains soon. We have commenced dressing in order to prepare a pile of ore for the crusher, the house for which is now nearly completed.

LADY BERTHA.—Jas. Metherell, April 28: Moyle's engine-shaft is down below the 30 fm. level 4 fms. 1 ft. 9 in., the ground is very good for sinking, and highly mineralised, with branches running through the shaft containing spots of mundic and ore. In the eastern end in the 30 we have, since my last report, been taking down the lode to the west of the cross-course, and shall this afternoon commence shooting into the cross-course that we may be able to see the lode on the eastern side as soon as possible. In taking down the lode in the western end in the same level I find it is not settled, being still in a disordered state; however, we must push on with all possible speed and get under the ore ground further west. The western end in the 20 is for the present suspended; the lode when last taken down was unproductive. Hooper's stopes in back of the level are improved, and now worth 3½ tons per fm. In Odgers's stopes, further west, we have not yet taken down any lode, but shall do so this afternoon. In Burns's stopes in the bottom of the 20 and east of the plat the lode will produce about 1½ ton per fm., and from the peach part of the lode we are breaking some good stones of tin. There has been no lode taken down in the pitches lately; the men are stripping down the ground by the side of the same, that we may take it down cleaner. Our sampling on Friday, the 30th inst., will be about 80 tons.

— J. Metherell, April 29: In taking down the lode in the 20 west I find Odgers's stopes to be worth 2½ tons per fm.

MERLLYN.—J. Trevethan, April 28: Since my last report the lode in the new shaft has been gradually improving, and to-day we broke some very rich specimens of lead. In fact, the whole of the lode is now saved out for dressing, and the appearances are such at present as to lead us to expect a far greater improvement shortly. The tribute pitches are without change. We shall sell at the next sale day from 8 to 10 tons of lead.

MOLD.—R. Rickard, April 24: The engine-shaft is down 11 fms. 0 ft. 3 in. below the 32 yard level, and I have set to the shaftmen to drive to cut the lode, at 7l. 10s. per fm., stented to cut through the lode; the cross-cut to be carried the breadth of the shaft—5 ft. and 7 ft. high, which will be used bye-and-bye to form a part of a lodge. I have also set to them to divide the shaft, and to put in a solar at the bottom for lodging stuff, &c., and to do other necessary work, at 55s., as per bargain. We have to make a fork, which I think will be completed by Tuesday morning, and I expect, all being well, to see the whole work completed by the end of next week. I have set the end to drive at Talbot's shaft, at 90s. per fm., stent 1 fm. I have set the 32 end at 60s. per fm., stented the month; out in this end we have a promising lode, but still poor; however, it is spotted with ore, and we find occasional good lumps of ore in it. By refering to the section of the mine, you will see that a great deal of ground has been taken away about the old footway shaft, at a shallow depth, which without a doubt was very productive. The 32 yard level will be some 14 to 15 fathoms below that point, in entirely unexplored ground, and I see no reason why it should not prove productive; therefore, I would recommend the level to be pushed on with expedition. The engine and machinery are still working admirably.

MOLLAND.—T. Bennetts, April 28: The engine-shaft is now 7 fms. below the 20; there is no doubt we have passed through the whole of the floor which came in from the north. The ground has changed, and is now a kindly looking killas, and it is my opinion we shall see an entire change in the country under the floor we have just passed through—if so, I have no doubt it will have a favourable impression on the lode. The lode in the 20 east is 1½ foot wide, producing good stones of ore; the ground is easier for exploring than last month; set to two men, 1 fm., at 7l. 10s. The stopes in the back of this level are worth 6l. per fm.; the ground is favourable; set to four men, at 2l. 15s. per fm.

NETHER HEARTH.—Wm. Vipond, April 26: The ore in the Sun string has been more bespangled this week, worth 12 cwts. of ore per fm.; set to four men, at 65s. per fm. The south lode, or string, is as good as ever, worth 1 ton 4 cwts. of ore per fm.; set to two men, at 65s. per fm. The stope on the vein is set to two men, at 44s. per fm., worth 6 cwts. of ore per fm. The working from Nixon's rise is worth 8 cwts. of ore per fm.; set to two men, at 60s. per fm. The rise in the vein at Dodgeon level is set to two men, at 50s. per fm. No ore in the rise yet. I have sent 12 tons of ore to Alston.

NEW CROW HILL.—The stopes in the back of the 15 are improved; there is a good branch of lead ore about 6 in. wide and some blende. The sumpmen are sinking under the 55 in a direct line to intersect the lode sometime before they reach the 65, and the ground is very favourable.

NEW WHEAL VOR AND EAST WHEAL METAL.—Joseph Vivian, N. Thomas, April 24: At Harriet engine-shaft we have completed the plunger-lift in the 30, divided and cased the shaft, cut a plat and barrow road, and made everything complete, and have recommenced sinking the shaft below this level, where the lode is large and tinny; from the appearance of the lode, and the country in which it is embedded being highly mineralised with mundic and sulphuret of zinc, which contains a little tin, we have every reason to expect an improvement shortly. We shall sink this shaft, and drive the levels east and west of it as fast as possible, in order to lay open tin ground for the stamps. We have commenced driving the 30 east and west, where the lode is large, and producing saving work for tin. We have cleared and secured the adit level through the old works at Penpraze from 60 to 70 fms., without meeting with the slightest appearance of the end of ground. The cross-cut is driven north on the cross-course 5 fms., and as yet have not met with any lode. In the adit level, driving east at Park-an-step, the lode is from 2 to 3 feet wide, kindly in appearance, and producing a little tin. In the adit level, driving east at Wheal Bramble, the lode at present is unproductive; judging from the appearance of the lode, and the quantity of water issuing therefrom, we have every reason to expect a speedy improvement. In the adit level, driving east at East Wheal Metal, the lode is from 5 to 6 ft. wide, producing saving work for tin. In conclusion, the mine has never presented more cheering prospects than at present. Last Saturday being the pay and setting-day, the following bargains were let:—Harriet engine-shaft to sink under the 30, at 20l. per fm. The 30 to drive east of the engine-shaft, on the north lode, at 2l. 5s. per fathom. The 30 to drive west of the engine-shaft, on the north lode, at 2l. per fm. The adit level to clear and secure east on Penpraze lode, at 1l. 10s. per fm. The adit cross-cut to drive north at Penpraze, at 1l. 10s. per fm. The adit level to drive east on Park-an-step lode, at 2l. 5s. per fm. The adit level to drive east on Wheal Bramble lode, at 3l. per fm. The adit level to drive east on Wheal Metal lode, at 4l. 10s. per fm.; besides which, we are collaring up a shaft about 70 fms. east of East Wheal Metal adit shaft, and shall commence sinking it next week. A pitch on tribute in the back of the adit level, on the great gossan lode, at 12s. in 1l. A pitch on tribute in the back of the adit level, on Wheal Bramble lode, at 8s. in 1l. All the stuff in the mine to land by three men, for one month, at 8l. All the tinstuff in the mine to spall and divide at 6d. per ton. The plans of these mines were forwarded to your address, per *Cornwall*, to Bristol, and thence per rail, and hope they have arrived safe.

NORTH BASSET.—T. Glanville, April 28: In the 82 the lode is yielding 2½ tons of yellow copper ore. In the rise in back of the 42 the lode is yielding 1½ ton of copper ore per fm. The other parts of the mine are as reported last week.

NORTH FRANCES.—P. Hosking, April 24: The lode in the 48, west of Eales's shaft, is 3 ft. wide, with a little black ore; the lode at the shaft is 1½ ft. wide, a promising lode. The lode in the 36 is 3 ft. wide, a strong lode, but poor. We shall begin to sink a new shaft on the cross-course next week. The tribute ground is looking very well. There is no other change.

NORTH LAXEY.—John Horsley, April 24: The vein in the 12, south end, looks very well so far; it is about 20 in. wide, with blue rock and gossan, and very nice pieces of lead, mixed through the vein like the sample. The vein appears to be getting wider, but we cannot prove it any more for a few days. We have little strings of lead up in the headings, but not as good as it has been. The vein at the shaft carries small pieces of lead with it. The strings connected with it cause it to be in a troubled state, but they look as if they were coming together. I think when they take the vein down again it will look better.

NORTH TAVY.—R. Williams, April 29: The stope in the 20, west of Gill's shaft, is still producing work of good quality for the stamps; lode large, strong, and of a very fine appearance. The men who were engaged at the old whim-shaft are for the present in the shallow adit, stripping down a piece of lode between the western cross-course and Gill's shaft, where it is producing some good tinstuff. What we believe to be the tin lode has, in all probability, never been opened under this point, and by laying it open here we shall the better know its position in the levels below. The lode in the 30, driving west, is 3 ft. wide, composed of mundic principally, with some peach, and a leader of rich copper, about 2 in. wide on the upper lode, and I daily expect to see a good lode of copper opened here. At surface we are going on as fast as we can, and the prospects are fair for a good sampling of tin.

OKEL TOR.—W. B. Collom, April 28: In the 65 fm. level we are through the lead lode, which is about 4 ft. wide, composed of spar and prian, spotted with lead. The men have now commenced driving south in this level, to reach the copper lode in a very favourable channel of ground. In the 50 fm. level we are driving on the south part of the lode; this part is 2½ ft. wide, containing mundic and copper ore: from the change in the bearing of the lode it will again unite with the north part in driving east, when we anticipate meeting with a very productive lode in this direction. The different tribute pitches are without alteration. The new crusher is answering very well, but we shall not be able to get a parcel of ore ready for sampling this week, as time will not permit. A cargo of mundic ore will be shipped for Swansea this week.

OLD TOLGUS UNITED.—G. Reynolds, April 27: Our setting in this mine on Saturday last is as follows—the engine-shaft to sink below the 32 fm. level, by six men, at 23l. per fathom; the lode in the shaft is 2 feet wide, letting out much water, and producing occasional stones of rich copper ore. The cross-cut to drive south at the 32 fm. level, by six men, at 6l. 10s. per fathom. At this point the killas has a promising appearance, and much water is issuing from the end. The west end, at the 32 fm. level on the lode, to drive by four men, at 3l. 15s. per fathom; the lode is 1 ft. wide, with two well-defined walls, and producing good stones of copper ore and much mundic.

PEDN-AN-DREA.—Capts. Carpenter, Delbridge, and Thomas, April 24: We set a new end to drive east of the junction yesterday, on the south part of the lode in this level, to four men, at 10l. 10s. per fm. There is no change to notice in either of the cross-cuts or ends driving on the course of the lodes throughout the mine since our last report. We are progressing as fast as possible with the engine, Bragg's, and Cobbler's, shafts. Our setting passed off yesterday very satisfactorily. We set to our tributers for one month, at a standard of 55l. per ton for black tin.

PEMBROKE AND EAST CRINNIS.—J. Dale, G. T. Trewren, April 27: In the 162 cross-cut, south from Reid's shaft, the ground is much the same as for some time past, still pretty favourable for driving. In the 112 end, east of Smith's shaft, the lode will produce from 1 to 1¼ ton of ore per fm., of fair quality. In the 112 west the lode will produce 1 ton of ore per fm. In the stopes in the back of the same level the lode will yield 1 ton of ore per fm. In the 100 end, east of Smith's shaft, the lode will produce full 2 tons of ore per fm. In the stopes in the back of this level the lode will yield about 1½ ton of ore per fm. In the stopes in the back of the 90, east of Smith's shaft, the lode on an average will produce about 1½ ton of ore per fm. The ground at Smith's shaft still continues favourable for sinking, and the men are making fair progress. Ground driven during the week ending April 27:—The 162 cross-cut south 4½ ft., ground highly mineralised. The 112 end east 4½ ft., letting out a quantity of water, and looks well for improvement. The 112 end west 4 ft., and of a very kindly character. The 100 end east 4 ft., with an improved appearance. Smith's shaft sunk 4½ ft.

PENCORSE CONSOLS.—H. B. Grose, April 24: We have this morning cut the lode in the 35, and from what I can yet see of it, it is 2 ft. wide, with two well-defined walls, worth for blende 2 tons per fathom, with good stones of lead and copper ore, and having just the same appearance as the lode in the 45 cross-cut, and running in the same direction, which clearly proves the workings hitherto have been carried on behind the 6, on the wrong part of the lode, and I have not the least doubt of having it in the 20 by a few fathoms driving, which I intend to prove as soon as possible. In consequence of the engine being idle, to repair and put in the balance-bob, nothing has been done behind the 35 since I last wrote you. The tribute pitches are without much alteration since my last, the men getting fair wages throughout the mine. We put our balance-bob to work last night; it is working well, and much better than the chain and wheel, this will be a great saving in time and coals for the engine, and I believe, if this had been done at first, it would have been a saving of at least 500l. to the company. We have weighed in our ore for the last month (March), 54 tons of blende, 1 ton of copper ore, and 10 cwts. of lead, which, I think, will about meet the cost, or, perhaps, a little more. At a fair calculation, we have now on the floors, dressed, about 600l. worth of jack, copper, and lead ores, and about 100l. worth in course of dressing, which I should recommend you to sell as soon as possible.

PENDEEN CONSOLS.—W. Eddy, April 24: We are still opening orey ground, as you will see by my report. In the 70 end north the lode is very large, 4 ft. wide, 3 ft. solid mundic, with rich stones of grey ore; the ground is just the same for driving, with much water. In the 70 winze the lode is looking very well, and will produce a good deal of ore when we come to work each end of the winze. In the 82 end north the lode is about 2 feet wide, with ore but poor. I almost think if we have two lodes at this level, and that the orey part being in the east wall, we shall be able to prove it shortly. I have sett three stopes behind the 82 fm. level end to work by four men, at 40s. per fathom. At the sump-shaft the lode is just the same as last week, lode very large, and the ground just the same for sinking. I expect we shall have the new cylinder at work next week, and the other skip road complete to the 82 the week after; we shall then be able to put more men to work, and work our mine as cheap as any other. We must also be getting about our crusher, if we intend to have our two-monthly samplings. We have now on our floors some very nice grey ore, and our mine is looking very promising.

PENHALDARVA.—J. Pope, April 24: In the 20, south of the engine-shaft, the leader part of the lode is 2 ft. wide, composed of soft spar, blende, and spotted with lead, with a very kindly appearance. In the 20 north the leader is 18 in. wide, good stones of lead—saving work. In the 10 north the leader is 1 ft. wide, producing 5 cwts. of lead per fm. In the 10 south the leader part is 8 in. wide, spotted with lead. In the adit level south the lode is 2 ft. wide, composed of soft spar, blende, and good stones of lead, with a promising appearance for further improvement. In the winze sinking below the adit level, north of Vigus's winze, the leader part of the lode is 1 foot wide, with a promising appearance. The stopes north of Vigus's winze will produce ⅛ ton of lead per fm. The stopes south of Vigus's winze will produce 6 cwts. of lead per fm. The stopes north of Sandow's winze are suspended for the present, on account of not having proper ventilation.

POLBREEN.—April 26: The ground in Dorcas's shaft is harder than it has been, and the cross-course smaller and closer; consequently, the water is not so much in the bottom of the shaft, but is flowing from the sides some 8 or 9 ft. from the bottom. There has not been any lode taken down in the shaft for the month; a hard floor of spar seems to have turned the dip of the lode, or shifted it a little north; on that account we have not been able to take down the lode, as there is killas standing against it, which cannot be taken down without a loss of time; to keep the lift in its regular course we are obliged to carry the shaft very wide, as it is; we did hope to have had the shaft down for a level about this time, but there has been only 9 feet sunk in the past month; we have set 1 fm. more, at 23l. The lode in the winze under the 22, east of the shaft, is down 5½ fms., and is down to water, so there is no chance of being able to sink it further before the shaft is down and the lode cut out, which will take the greater part of this month, but I am glad to be able to report there is an improvement in the winze; the lode is now about 1 ft. wide, very good, it is worth full 25l. per fm., this looks well; if anything is met with in the shaft to drain the winze before it is down, we shall put a pare in it at once. The lode in the winze under the same level, west of the shaft, is still large (about 2 ft. wide), with a little tin, at times yielding good stones of tin, but on the whole poor, worth 3l. or 4l. per fm. The lode in the 22, west of sump, is still small and poor. There has been but little of the lode taken down in the 22, east of Dorcas's shaft, in consequence of the attle not being cleared out, but the lode appears to be larger, and I think tinny, from the little that has been taken down. The stope in the back of the 22, east of Dorcas's shaft, is worth about 6l. per fm., and costing 2l. 10s. to stope. We have three pitches set on Tregay's lode, at 13s. in 1l., employing eight men and one boy.

PROVIDENCE MINES.—A. Anthony, April 28: The lode in the 75 fm. level end, east of Higgs's shaft, is improved since last reported on, being worth at present full 80l. per fathom. On the whole, the other parts of the mine are hardly so good.

QUEEN OF DART.—P. Hawke, April 28: The ground in the 30 east is become mineralised; several small veins of rich copper dipping obliquely into the lode are visible. The lode itself is about 1½ ft. wide, composed of spar, peach, and mundic, and letting out plenty of water; the indications are such as might be desired preparatory to the discovery of ore worth notice. The cost of driving this end for about a month hence will be defrayed with what I have saved on the last two or three months' working, the expenditure not having attained the complement allowed to comprise the monthly cost-sheet, but cannot accede to operate on the different points, which I shall submit to your notice before I conclude my report. The lode in the end to the east of boundary shaft, in the 20, is 2 ft. wide, already producing some saving work, and promises well for further improvement. The lode in the boundary shaft, sinking below the 20, is 20 in. wide, producing 3 tons of copper ore per fm.; estimated to be worth 15l. per fm., being free from mundic to a great extent; the quality is certainly improved. No. 1 stope, in the back of the 20, yields at present 6 tons of copper ore per fm.; estimated to be worth 24l. per fm. The improvements that have lately taken place are certainly cheering.

REDMOOR.—T. Taylor, April 24: During the past month we have driven the 20 north, on the lead lode, 5 fms. 2 ft. 6 in., through good tribute ground; in the last 6 ft. of this drivage the lode has improved, in the present end it will yield about 6 cwts. per fathom—set to four men, at 85s. per fathom. We have also rose 1 fm. 5 ft. in the rise in the back of the 40, against the 20 winze on the lead lode. The holing of this ground will greatly facilitate our progress in the 20, therefore we have put four men in the rise; the lode is about 1 ft. wide, composed of soft spar, prian, mundic, and some very good stones of lead—set to four men, at 87s. 6d. per fathom. We have sunk the 70 winze on Kelly Bray lode 2 fm. 3 ft. In my last monthly report I gave it as my opinion that this winze would discover or lead to a continuation of the great bunch of ore which has been worked away in the back of the 70 and 60 fm. levels, and I am glad to state that my opinion is confirmed by a gradual improvement in the winze. The lode in the bottom of the level, when we commenced sinking, was worth about 1 ton per fathom; and now in the bottom of the winze the lode is worth full 2 tons per fathom. The lode is about 3 ft. wide, composed of mundic, spar, and copper ore, but very hard and bad for sinking, owing to the dip of the ground. We have also driven the 80 east, on Kelly Bray lode, 8 fms. 1 ft. 6 in.; the lode throughout this drivage is orey, and will pay at a high tribute. In the present end the lode is about 2½ ft. wide, composed of quartz, prian, mundic, and stones of copper ore, with strong capels. We have about 38 fms. to drive to get under the 70 winze; but, according to the apparent dip of the ore in the winze, we may expect to meet with it within 25 fms. from the present end. The 70 fm. level has been driven on the north part, and our 80 is on the south part of the lode, therefore we cannot judge from the 70 what orey ground we may meet with before we reach the shoot of ore in the winze—set to six men, at 60s. per fathom. We have also driven the 80 west, on Goodman's lode, 2 fms. 5 ft. 6 in., the lode in the present end is about 1 foot wide, of a promising character; but according to the run of orey ground in the 70 we cannot expect any very important change until we get some 7 or 8 fms. from the lead lode—set to two men, at 85s. per fathom. We have also driven the 80 west, on the Count-house shaft lode, 7 fms. 0 ft. 9 in.; the lode in the present end is about 2 ft. wide, composed of quartz, mundic, white iron, with stones of copper and lead. We have also driven this 80 end, from the lead lode, about 20 fms.; and from the indications of the lode at the different levels, where intersected by the lead lode, I fully expected better results. It appears this lode is somehow disordered by a lead lode; in places we have had beautiful branches of white iron, containing lead, and within a few feet the lode would change into quartz, prian, and mundic, containing good copper ore, and at times copper and lead mixed up in one stone. Judging from the position of the Holmbush lead lode, and the position of our lead lode, it is my opinion they are two distinct lodes, and that Holmbush lode is some 40 or 50 fathoms to the west of our lead lode. In searching the adit on one of the copper lodes I found a north and south course, of a kindly appearance for lead, about 50 fms. west of our lead lode. I would strongly recommend the driving this 80 end, as the ground is favourable for doing so, at least 30 fms. further, in order to intersect this western lead lode. No tribute settings this month. We have at surface about 7 tons of No. 1, and about 3 tons of No. 2 lead ore. Our machinery is looking well.

RESPRYN.—W. Tregay, April 29: The wheel, although working very well indeed, has not yet forked the mine to bottom since the increase of water from the recent flood, which being the greatest that has happened for the last twenty years, was quite as unexpected as unwelcome. The sinking of the engine-shaft is necessarily suspended until the springs are somewhat drained, when the wheel will master the water again. The 9 east end, on the south side, is being driven by six men, at 54s. per fm., including wheeling, hauling, &c. The lode here is 2½ ft., composed of spar, gossan, and stones of rich yellow and black ore. A prettier lode at that depth cannot be seen. The copper ore sells to day.

RIVER TAMAR.—J. Cock, April 27: The ground at the engine-shaft is improving, and better progress is being made than for some weeks past. No other change to notice.

ROSEWALL HILL AND RANSOME UNITED.—P. Roach, April 28: Since last report, we have cleared and secured 9 ft. of the engine-shaft and about 6 ft. of the adit, which is, as I stated last week, very wide, and cannot be done so fast as it would otherwise have been. We have taken up the adit water through the Ransome, and shall be ready by Saturday to commence forking this part of the mine under the adit. Everything looks encouraging towards forking the mines, and to effect the communication so much desired for proving the ground, and also for ventilation. The building the steam stamps-house is let, and in a few days we shall be ready to commence. Everything else is going on favourably.

ROSEWARNE CONSOLS.—J. Richards, April 24: The engine-shaft is down 5 fms. 4 ft. under the 20; the lode is from 2 to 2½ ft. wide, opening tribute ground. The lode in the 20, driving west of the engine-shaft, is 2½ ft. wide, opening tribute ground; the lode in the said level, east of the shaft, is 3 feet wide, with stones of ore. In the 10, driving west of the cross-cut, the lode is 20 in. wide—tribute ground. The new caunter lode in the adit end, driving east, is 4 ft. wide, composed of peach, prian, mundic, and a little copper ore—a very promising lode indeed. I calculate we have 60 tons of copper ore dressed to sample on Tuesday, April 27.

SOUTH BEDFORD CONSOLS.—J. Phillips, April 27: We have commenced to drive the 75 west from Red Whim shaft; the lode in the end is 4 ft. wide, composed of fluor-spar, peach, and prian, and worth 2 tons of ore per fm. The 62 cross-cut is extended 19 fms., and according to the dialling we have 7 fms. more to drive to intersect the south lode. In the 36 east the lode is 4 ft. wide, composed of gossan and quartz, and yielding fine stones of ore occasionally—a very promising lode. The lode in Coward's shaft is 4 ft. wide, composed of gossan and prian, producing stones of carbonate of copper.

SOUTH CARN BREA.—T. Glanville, April 28: In the 68, driving east on the flat-rod shaft, the lode is 6 feet wide, yielding 1½ ton of ore per fm. At the flat-rod shaft, sinking under the 68, the lode is 4 feet wide, mixed throughout with copper ore. The other parts of the mine are without alteration.

SOUTH CLIFFORD UNITED.—No. 3 lode west, at Pulla, is 2½ ft. wide, composed of gossan, mundic, and black ore; ditto east about 1½ ft. wide—soft spar, mundic, and spots of lead and copper ore. No. 6 west is 1½ ft. wide, promising; in the same level east the lode is from 3 to 4 ft. wide, a very pretty lode, composed of gossan, soft spar, mundic, and strong squats of yellow ore. At Trehaddle, another branch has been cut in the cross-cut, which is letting out more water. Capt. Pope concludes his report by expressing his confidence of having a good mine here in depth.

SOUTH DOLCOATH AND CARNARTHEN CONSOLS.—W. Roberts, April 27: Nothing new to report this week.

SOUTH CRENVER.—J. Delbridge, E. Chegwin, April 26: In the 94 west the lode is 2 feet wide, producing 1 ton per fm. In the 84 rise there is good tribute ground. In the 74 west the lode is 2 feet wide, yielding 1 ton per fathom. In the 54 west the lode is 1½ ft. wide, containing stones of ore. In the 74 east the lode is 1½ ft. wide, producing 1½ ton per fm. In the 84 east the lode is 3 ft. wide, yielding 1½ ton per fathom. We sample on Tuesday next about 86 tons, in three parcels.

SOUTH WHEAL TOLGUS.—April 24: There has been but very little done in any of our tutwork bargains for the past week, in consequence of two or three accidents we had last week in breaking our box rods and the balance box at the surface to Michell's engine, which caused a long stop to the engine, and with the great increase of water from the great fall of rain we had a fortnight since, that when we put the engine to work the water had risen to the 78. Our engine has worked well this week, and the water is now drained to the 90, so that the men are all at work in the 90, and we hope with good speed to be in fork next week to the 100, but probably it will take a fortnight from this time to get the water drained to the bottom of the mine.

ST. AUSTELL CONSOLS.—R. H. Williams, April 24: The mine throughout is looking as well as for some time past. We are opening out some good tin ground on Barker's lode, going west. Our prospects are rather improving.

ST. DAY UNITED.—Wm. Teague, April 26: Poldice District: In the 144, driving west of Trussall's north shaft, the lode is 2 ft. wide, producing good stones of ore. In the 144, driving east of shaft, the lode is 2½ ft. wide, yielding 1½ ton of ore per fm. In the 124, on Field's lode, driving east of Quick's shaft, the lode is worth 15l. per fm. for copper ore. In the 114, on Kemp's lode, driving west of Quick's shaft, the lode is producing ore of good quality. We are daily expecting to cut Field's lode in the 114 cross-cut, south from mundic lode, and directly over the 124 end referred to above. The 124 on the tin lode is improved, and is now yielding good saving work for tin. The 114 on the tin lode is worth 12l. per fm. The stopes on the tin lode are looking better, and are now worth from 15l. to 20l. per fm. We are now getting on as fast as possible with the rods in the 124 for the drainage of Billing's bottoms, and hope to complete the fixing of the bobs, &c., in a month from this time.—Wheal Unity District: The lode in the bottom of the 70, at Singers', west of point of horse, is yielding 5 tons of ore per fathom. Todpool engine-shaft, sinking under the 134, is looking a shade better, and is now worth 15l. per fm. We have cleared the bottoms in the past week east of shaft, which are worth 30l. per fm. The other bargains in this district are without alteration.

TAVY CONSOLS.—R. Williams, April 29: I have nothing new to report of the prospects of this mine; nothing has been done at the shaft since May last, in consequence of a breakage of the rods, which threw the water into the bottoms, and it has not been in fork since. We have five pitches working in the mine, and they are all producing copper ore, and the men are working with spirit; the tributes are from 11s. 6d. to 13s. 4d. in 1l. We have suspended the driving of the 56 east, it being very poor, hard, and expensive.

TEES SIDE.—R. Bray, April 23: At Metal Band level, driving east, the vein is poor. To-day we intersected another string of lead, containing spar, clay, jack, and lead, and 2 or 3 in. wide. I hope these frequent backs or strings crossing are indicative of our near approach to one of the east and west veins so long expected. In the sump we have got through the hazle bed, and the ground looks more favourable for lead. The stamps and dressers are at work, and we shall have another small lot of ore ready for market soon.

TINCROFT.—Capts. Teague, Andrew, and Cock: North Tincroft Lode: In the 154 fm. level, west of Tyrie's engine-shaft, the lode is producing saving work for tin. In the 154, driving east of shaft, the lode is small and poor. In the 142, driving east of shaft, the lode is producing saving work for tin. In the 90, driving east of Willoughby's shaft, the lode is worth 7l. per fm. for tin and copper. In the 80, driving east of Willoughby's, the lode is 3½ ft. wide, and worth 9l. per fm. for tin and copper. In the 60, driving east of Willoughby's, the lode is without alteration since our last.—Highburrow Lode: We have done nothing at Martin's east under the 152 for the past week; the water being in this has been in consequence of our having to disengage the rods to assist our fixing the plunger-lift at old sump, which is now completed and the drainage commenced, and we hope to be in fork in a week from this time. In the 142, driving west of the downright shaft, the lode presents a very favourable appearance, with good stones of ore. The stopes and pitches are without alteration since our last.

TOLVADDEN.—G. G. Bennett, F. Gundry, Ezekiel Johns, April 28: Since the meeting of the 20th inst., we have discovered ore further north, at the bottom of the engine-shaft; the elvan seems to have greatly improved the lode generally. We have commenced sinking a winze 11 fathoms east of the engine-shaft, in the 10, where there is a course of ore yielding 5 tons to a fathom. Our 10 east is much improved since our last report; all other parts are much the same. The machinery is working remarkably well. We sampled yesterday 247 tons of copper ore.

TREMOOR CONSOLS.—H. B. Grose, April 26: Our operations are progressing very satisfactorily, the ground is improving in the bottom of the shaft for sinking, and of a more congenial character for mineral. The lode is without any change to notice, still producing good stones of grey and yellow copper ore, and looking very promising. The machinery is working well, and in good order.

TRETOIL.—R. Rich, April 28: We shall sample 105 tons of copper ore next Monday, and shall have a further quantity, to the value of 50l. to 60l., on the floors at the end of this week. The stopes in the back of the eastern adit are still producing good work. There is no change to notice since my last report in the eastern end. We have commenced to drive on the course of Blind Will's lode, west of the shaft; this lode is 2 ft. wide, spotted with copper ore—a very kindly lode. We have also commenced a cross-cut from Blind Will's shaft, to cut this lode 20 fms. from surface (midway to adit); we calculate on cutting this lode in 2 fms. more driving, unless the lode underlies faster than we have reason to suppose; if it does not, I hope shortly to be able to report still more favourable of our operations in this direction.

TREWEATHA.—T. Richards, W. Rowe, April 28: The engine-shaft is down 16 fms. 2 ft. below the 70. The 70 end north is producing some saving work. The 50 north is without change. The stopes are producing much as usual. The parcel of ore sampled on April 17 was sold on Monday last to Messrs. Sims, Willyams, and Co., at 25l. 1s. per ton.

TYNE HEAD.—G. Millican, April 23: I have obtained another man to undertake the dressing of ore, who I expect will answer. The mine continues about the same as last reported. Four men are now working ore in the vein. The streams are getting very low of water.

VALE OF TOWY.—T. Harvey, S. Harper, April 27: Clay's engine-shaft men have been engaged in the past week cutting bearer holes, &c., preparatory to changing our pitwork. The lode in the 60 fm. level, north of this shaft, is 3 ft. wide, and producing 6 cwts. of lead per fm.; in the same level south the lode 4 ft. wide, composed of spar and gossan, but unproductive. The lode in No. 2 winze, sinking in the bottom of the 50, north of this shaft, is 2 ft. wide, producing some good lumps of lead, but not sufficient to value. The lode in No. 1 stope, in back of this level, is 2½ ft. wide, producing 10 cwts. of lead per fm. The lode in No. 2 stope, in back of this level, is 3½ ft. wide, producing 12 cwts. of lead per fm. The lode in Bonville's shaft, sinking below the 50, is 3½ ft. wide, producing 26 cwts. of lead per fm. The lode in No. 1 stope, south of this shaft, is 4 ft. wide, producing 22 cwts. of lead per fm. The lode in No. 1 stope, north of this shaft, is 3½ ft. wide, producing 28 cwts. of lead per fm. The lode in the 50, north of this shaft, is 1½ ft. wide, producing 10 cwts. of lead per fm. The lode in the 40, north of this shaft, is 2 ft. wide, with a more promising appearance, producing 8 cwts. of lead per fm. The lode in No. 1 winze, in bottom of this level, is 3 ft. wide, producing 7 cwts. of lead per fm. At the 30, driving east, we have not met with any lode yet. The lode in the 50, south of Field's shaft, is 4 ft. wide, unproductive. The lode in the 40, south of this shaft, is 1 ft. wide, producing saving work. The lode in the 30, south of said shaft, is 2½ ft. wide, producing 17 cwts. of lead per fm. Some of our pitches are looking well, and the men are getting fair wages.

VIRTUOUS LADY AND WHEAL BEDFORD.—W. Metherell, April 29: Yesterday we broke some very good spots of ore in the cross-cut in the 24 fm. level. Colwill's pitch is as last reported. The other pitches throughout the mine are turning out a little ore. Nothing new yet in the cross-cut in the shallow adit. I shall this afternoon send away two or three samples of tin to be assayed; as I have them I will forward them to you. All the samples I have tried produce tin.

WEST BASSET.—W. Roberts, April 27: On the north lode, in the 94 east, the lode is 4 feet wide, producing 2 tons of ore per fm.; the 84 east produces 2 tons; the same level west 5 tons, and the 75 east 4 tons of ore per fm. On the engine lode, in the 75 west, the lode is 4 feet wide, producing 2 tons per fm.; the 65 west produces 2 tons, and the 52 west 1 ton, of ore per fm. We shall sample to-morrow (Wednesday) 746 tons of ore.

WEST SHARP TOR.—W. Richards, April 26: The ground in the 110 west has improved for driving in the past week. The part of lode carried is the same character, and yields a little ore now and then. We are not yet through the lode in the cross-cut east in the 110, there being a part still to the south of the granite referred to. The end is still wet, and produces a little ore, mixed with quartz. There is no change in the ground in Morris's shaft, or the 70 east, since last reported on.

WEST SNAILBEACH.—S. M. Redge, J. Richards, April 29: The engine-shaft is sunk 53 fms., and is now within about 9 to 10 ft. of cutting the main lode, which is found productive for lead at the 40 fm. level and other shallower workings, where there have been upwards of 600 tons of lead raised and sent to market. The indications of the 40 fm. level are sufficient to warrant a good and productive lode at the 53 fm. level, where the lode is intersected and driven upon for a short distance. Should this turn out as we fully expect, we shall have a splendid mine laid open at once, and plenty of backs to work away at a good profit. Monday last being our setting-day, we set the following bargains:—A pitch in the bottom of the 40 fm. level, about 80 fms. east of the engine-shaft, to nine men at 4l. 10s. per ton for lead, where the lode is varying in size from 3 to 6 ft. wide, of a most congenial character, with a leader of lead on the hanging wall, worth full 30l. per fm. We have at surface 3 tons ready dressed for market. Should this continue like it now is we shall soon have a good pile of ore at surface ready for dressing. We have three men busily engaged in casing and dividing the engine-shaft from the 40 to the 53 fm. level, also putting in ladder roads. When this is completed we shall at once commence driving the cross-cut north to intersect the lode, where we expect good results will follow. We have another important point which we would strongly recommend—that is, the driving of the 40 fm. level end west on the course of a strong masterly-looking lode, where the water is issuing from the end in all directions. This is a strong indication of something good a-head of the present end. There is also a shaft communicated 30 fms. behind this end, upon what may be termed the large barytes lode, which is already laid open, where we can now raise from 100 to 500 tons per month at a small cost. The engine is working well, and things going on satisfactorily.

WEST WHEAL TREVELYAN.—J. D. Osborn, B. Gundry, April 24: Cater's shaft is now sunk 19½ fms. in the same kind of killas ground as last reported, and very favourable for sinking. The adit cross-cut is nearly forth to the shaft, as we can hear the men very plain from the bottom of the shaft.

WHEAL ADDEMS.—R. Moore, April 29: Since my last we have had very much trouble with some of the shallow levels about the shaft. The late flood of rain which came through the mine has closed three levels the same as if they had never been driven; this appears to be about 5 fms. long. The water is at a stand in the 28; this, together with the late rain, has thrown us out by 30 tons of blende; had this not occurred, I was in hopes that by this time to have cut a fine lode of copper. The mine is looking cheering. In the winze that we are sinking north of the shaft there is a fine lode of lead and blende. We shall sample 80 tons of blende and 11 tons of lead on Saturday.

WHEAL AGAR.—W. Roberts, April 27: In the winze sinking under the 40 fm. level the lode is 1½ ft. wide, producing 1 ton of ore per fathom. The stope in the back of the 30 produces 4 tons per fathom; the lode is 4 ft. wide. The other parts are without alteration. We expect to sample to-morrow 40 tons of ore.

WHEAL BAL.—J. T. White, April 27: Tin sold from this mine at Chyandour, on Friday, April 23, 8 tons 5 cwts. 1 qr. 10 lbs., at 61*l.* per ton=504*l.* 5*s.* 6*d.* Tut and tribute bargains let on Saturday, April 24:—The 50 to drive west of Thomas's shaft, on Wheal Bristol lode, by two men and one boy, at 80*s.* per fathom, poor for tin. The cross-cut to drive west of Thomas's shaft, to cut Wheal Bal lode, by two men, at 110*s.* per fm., no tin. The deep adit end, driving east of Coulson's shaft, on Morvah men's lode, by two men, at 80*s.* per fm., poor for tin. Some ends that had been driving on tutwork are now working on tribute. There are 21 tribute pitches, worked by sixty men and several boys:—1 pitch, at 15*s.* in 1*l.*, by four men; 14 ditto, at 18*s.*, by thirty-three men; 2 ditto, at 12*s.*, by nine men; 2 ditto, at 14*s.*, by six men; 1 ditto, at 13*s.* 4*d.*, by four men; 1 ditto, at 8*s.*, by four men.

WHEAL CROWNDALE.—J. Richards, April 29: There is no alteration in any part of the underground department. The different pitches continue worth equal to the last advice. The dressing-floors and grinder are being got on with as fast as possible.

WHEAL EDWARD.—M. H. East, April 24: North Lode: The ground at the diagonal shaft continues tolerably favourable for progress. In the 71 west the character of the ground is favourable for mineral; this end is getting under the ore ground in the level above. The lode in the stopes in the back of the 71 east has not yielded much ore during the past week, but is looking a little better at present; No. 1 is worth about 2½ tons per fm., and No. 2, ½ ton per fm. The tribute department on the whole is looking less productive also at present. There is no change to notice at either point west of the shaft. About 13 fms. west of the shaft, I have put four men to try the lode in the back of the 62, at a point which when driven through presented a good appearance; the lode is 5 ft. wide, and contains stones of ore of rich quality.—South Lode: The lode at the shaft is without change to notice since my last report. The lode in the 61 east is 4 feet wide, stones of ore, but nothing to value; this end is suspended for the time, and I have put the men to commence sinking a winze below the level; the lode is worth 20*l.* per fm. In the 61 west we have discovered the lode west of the cross-course; it is about 2½ feet wide, yielding stones of ore, and the end is very wet. The lode in the stope in the back of the 61 east is worth 16*l.* per fm. No other alteration to notice.—P.S. From the unexpected falling off in the stopes and pitches, the next sampling will be short of the quantity estimated in my report at the last general meeting.

WHEAL GRENVILLE.—G. R. Odgers, April 24: The lode at the engine-shaft sinking below the 66 is full 20 in. wide, and of much the same character as I stated last week. In the 66, east of the shaft, the north lode is full 12 in. wide, composed of a very nice looking quartz; there is a larger horse of granite between the two lodes than I had calculated upon, consequently we have been unable to take down the south lode, but from its appearances I think it is nearly 2 ft. wide, and when I picked into it, it produced good stones of ore. The men are now engaged stripping the horse to take down the lode, which will be done in the coming week, when you shall have full particulars of it. In the cross-cut north in the 54, east of the shaft, we have not yet intersected the north branch, the ground being of a stiff granite.

— G. R. Odgers, April 28: I am now come up from underground, and I beg to inform you that we have a large and kindly lode in the engine-shaft sinking below the 66; and in the eastern end of the same level the lode is full 3 ft. wide, composed of a pretty spar and gossan, producing excellent stones of ore. The horse of granite is wearing out again, hence I expect shortly to see the north and south parts united. The water oozing through the horse is strongly charged with copper because it tinctures very fast; I think it may be called a very kindly lode indeed.

WHEAL HARRIETT.—S. Williams, April 24: The engine-shaft is progressing favourably. The lode in the 90, east and west, is at present unproductive. The lode in the 74, east end, is 2 feet wide, composed of peach and mundic. The lode in the stopes east from winze, above the 74, is worth 2½ tons of ore per fm. The lode in the stopes below the 65 is worth 2 tons of ore per fathom. The tribute pitches are yielding a fair quantity of ore. The lode in the deep adit has a better appearance, and is letting out much water, which is draining the bottom of the eastern shaft.

WHEAL HENDER.—J. Trewren, April 28: The lode in the 10 fm. level, driving east from the engine-shaft, is 18 in. wide, composed of flookan, spar, and mundic. The lode in the same level driving west is 3 ft. wide, composed of flookan, spar, prian, and mundic, with a little ore; this end has a very promising appearance, and I think will make ore shortly. We have suspended the adit driving east on Rosewarne lode for the present, until the adit shaft is sunk; the air being bad in the end, I have put the men from the adit end on the main, or engine lode, to drive north to intersect a branch which is gone off north to the west of the new shaft. The engine is working well, and all other surface work progressing favourably.

WHEAL KITTY.—M. Edwards, T. M. Thomas, April 24: The engine-shaft is now down nearly 10 fms. below the 82; the ground, however, has but slightly improved yet. In the 82, driving west, the lode is 18 in. wide, and worth 14*l.* per fm.; in the same level east it is 2 ft. wide, and worth 12*l.* per fm. The lode in the 72 west is 3 ft. wide, and worth 10*l.* per fm.; in the same level east it is 2½ ft. wide, and worth 12*l.* per fm. The lode in the 62 west is large and promising, being 6 ft. wide, and worth 18*l.* per fm. —Sunny Corner Shaft: The men are cutting down the ground here between the shaft and bottom of the lode, as a contract from the middle level to the 54; when this is completed we shall sink below that place on the course of the lode, if the water will allow us to do so. The lode in the 54, driving east, still continues of the most promising kind, being 2 ft. wide, and worth 17*l.* per fathom.—Holgate's Shaft: This shaft is now down 9 fms. 3 ft. below the 75; no lode has been taken down since last reported on, but will again be taken down in the course of a week or more. In the 75 east the lode is 3 feet wide, and worth 10*l.* per fm.; in the same level west it is 2 ft. wide, and worth 6*l.* per fm. No alteration has taken place in the 65 or 54 west, or in the tribute department.

WHEAL MARGERY.—J. Benbow, J. Tregoning, April 28: American Shaft: The lode in the shaft is 18 in. wide, worth 8*l.* per fm. In the 70 fm. level east the lode is improved, but not to value; in the 70 fm. level west the lode is 2 ft. wide, worth 18*l.* per fm. In the 60 east the lode is unproductive at present; in the 60 west the lode is 6 ft. wide, worth 24*l.* per fm. In the 50 east the lode is poor. In the 20 west the lode is 2 ft. wide, worth 6*l.* per fm. No. 3 winze, below the 50 fm. level west, is communicated to the 60, worth 12*l.* per fm.—Wellesley's Shaft: The 60 fm. level east is worth 16*l.* per fm.; the 60 west is 18 in. wide, worth 8*l.* per fm. Our copper tribute setting took place on Saturday last, when nine pitches were taken, at prices from 4*s.* to 13*s.* 4*d.* in 1*l.* The copper ore sampling was yesterday, and 216 tons were sampled.

WHEAL MARY EMMA.—Wm. Doble, April 28: The lode in the winze is tinny throughout, and of a very promising character, spotted with copper ore. In clearing the shallow adit we find the lode carries tin as far as cleared. The distance from the river is about 50 fathoms. In clearing 15 fathoms further east we shall reach a cross-course, where it appears the ancients had some good courses of tin.

WHEAL MARY GREAT CONSOLS (Liskeard).—J. Brown, John Tiddall, April 27: The 62 west is very much improved; the men cut into a good rock of ore upwards of a foot in thickness. We cannot at present determine what it will be likely to produce, but we esteem it a very valuable discovery. So far as we have opened into the lode we may estimate it fully worth 15*l.* per fm. It will, however, require a few days more to ascertain its true character and value. The 75 is looking exceedingly promising, and produces some excellent ore; the pitch in this level is still working at 5*s.* in 1*l.* The 85 is without much change, but an improvement may be confidently expected as we proceed westward. The preparatory work of cutting ground for plats, putting in bearers, fixing cistern, pumps, &c., in the 85 will be soon completed, and the engine-shaft will shortly again be in course for the deeper level (120). The tribute pitches throughout are yielding very fair returns. We have about 30 tons of ore now on the floors, worth (say) about 8*l.* per ton; and altogether we esteem the prospects of the mine very encouraging.

WHEAL RUSSELL.—A. Barratt, April 29: We continue to drive the 74 on the branch of ore referred to at the meeting of adventurers; its bearing at present appears to be much faster to the east, and will, in all probability, form a junction with the lode at a short distance more driving. We have commenced sinking a winze in bottom of the 74 cross-cut, south of Matthews's shaft, on the branch of ore before referred to, but not any of the branch as yet been taken down. We have not met with any lode in driving north on the cross-course in the 62, east of Matthews's shaft. The stopes in the back of the 37, east of Matthews's shaft, is at present worth from 2 to 3 tons of ore per fm.

WHEAL TEHIDY.—D. Lanksbury, April 28: In the 60 fm. level west, from the engine-shaft, on the caunter, and in the 60 fm. level east, on the south part of the caunter, the lodes contains stones of ore, but not of much value. At the engine-shaft, the 60 fm. level driving south, and the 60 fm. level, driving north, the ground is without alteration to notice.

WHEAL TREFUSIS.—Z. Carkeek, April 27: The engine-shaft is sunk 4⅙ fathoms below the 55 fm. level; the lode is split up in branches from 3 to 4 ft. wide. In the 55 west the lode is 3 ft. wide, composed of mundic, spar, and black ore, with a very promising appearance. In the 55 east the lode is 2 ft. wide, yielding tinstuff to the amount of 4*l.* per fathom. In the 42 east the lode is 3 ft. wide, composed of gossan and spar, with stones of copper ore. In the 42 fm. level south we have got into an elvan course, which makes it easy ground for driving. In the 30 fm. level, east of Nicholl's shaft, we have cut the lode on the east side of the cross-course; the lode is 2½ ft. wide, composed of spar and gossan. The tribute pitches are not looking quite so well.

WHEAL TREBARVAH.—B. Gundry, F. Hosking, April 20: The flat-rod shaft is nearly down to the 70 fm. level, which is the most important point at present, as there are some good bunches of ore gone down in the 60 fm. level, east of flat-rod shaft, which when drained by the 70 will enable us, we hope, to increase our samplings. The 60 fm. level, west of flat-rod shaft, is at present in hard ground, lode small. In the 60, east of engine-shaft, the lode is 9 in. wide, one-half of which is copper ore. In the 60 fm. level, west of engine-shaft, the lode is 15 in. wide, composed of spar and good stones of ore. Killee winze, sinking below the 20 fm. level, west of flat-rod shaft, is much improved, and worth 10*l.* per fathom. In the cross-cut, south of Michell's shaft, the air has been so little that we cannot make much progress. The branch we cut some time since we consider is a dropper into the main lode, as it is dipping south very fast. We have not yet driven far enough south, for want of air, to cut the old main lode. The tribute department in this mine is the same as last reported.

WHEAL TREVELYAN.—J. D. Osborn, B. Gundry, April 24: Watson's engine-shaft is now sunk to the 60; it will be necessary to sink 2 or 3 feet deeper for a fork for the water, which we hope to do next week, when we shall at once commence the 60 cross-cut to Park lode. In the 50 cross-cut we expect to be getting very near Richards's tin lode, as there is a great deal of water issuing from the end. The 40 east, on Richards's tin lode, is still yielding tinstuff, and opening tribute ground.

WHEAL UNION.—T. Glanville, April 28: In the 20 fm. level, driving west of the cross-course, the north lode is 4 ft. wide, with a branch, 8 in. wide, of copper ore. In the 20 fm. level, driving east of the engine-shaft, the lode is 18 in. wide, opening good tribute ground. There is no material alteration in other parts of the mine.

WHEAL VENTON.—T. Richards, April 29: We have intersected the old lode on the south side of the slide, and, so far as we have got into it, it has a promising appearance, containing hornspar, quartz, and stones of lead; it will require some three or four days more to get through it, when you shall be fully advised thereon. The ground is still favourable on the eastern lode, but no improvement yet otherwise,

WHITFORD.—J. Trevethan, April 28: The ground in the shaft is without change to notice; it is down from surface 16 fms., and in 6 fms. further sinking I propose cross-cutting to the east and west lodes, near where the junction of the two lodes takes place, as at that depth the east and west lode made considerable quantities of lead in the adjoining sett. In the meanwhile push on the shaft for the 60.

Mine Accidents.—At North Roskear, on Tuesday, as John Bartle was picking out a hole which had missed fire, it suddenly exploded, taking off two of his fingers and a thumb, and otherwise injuring him.——At Dolcoath, a man named Dunstone having blasted a hole, was making off from it, when he fell backwards down a shaft to the depth of 10 fathoms, and it is feared his back is greatly injured.

Explosion through Inattention to Rules.—Five persons were severely burnt, and one other slightly injured, by an explosion at Machen. The fireman was fanning the fire-damp out of a heading, and had placed the proper danger signal, but a man entered with a naked light, and the explosion occurred.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, MAY 1, 1858.

COPPER.	£ s. d.
Copper wire .....p. lb.	0 1 2½–1 3
ditto tubes ..... „	0 1 1 –1 2
Sheathing & bolts .. „	0 1 0 – –
Bottoms ..... „	0 1 0½–1 1
Old (Exchange) .... „	0 0 10½– –
Best selected....p. ton	110 10 0– —
Tough cake..... „	107 10 0– —
Tile ..... „	107 10 0– —
South American.. „	100 0 0– —

IRON.	Per Ton.
Bars, Welsh, in London..	7 5 0– 7 10 0
Ditto, to arrive	6 12 6– 6 15 0
Nail rods	7 15 0– 8 0 0
„ Stafford. in London	8 7 6– 9 0 0
Bars ditto	8 10 0– 9 10 0
Hoops ditto	9 10 0– 9 15 0
Sheets, single	10 0 0–10 10 0
Pig, No. 1, in Wales ..	3 15 0– 4 15 0
Refined metal, ditto....	4 10 0– 5 5 0
Bars, common, ditto....	5 15 0– 6 5 0
Ditto, railway, ditto ..	6 0 0– 6 5 0
Ditto, Swed. in London.	13 10 0–14 10 0
In stock to arrive....	— – —
Pig, No. 1, in Clyde....	2 13 6– 2 15 0
Ditto, in Tyne & Tees..	2 19 6– 3 2 6
Ditto, forge.....	2 17 6– —
Staffordshire Forge Pig.	4 10 0– 5 0 0
Welsh Forge Pig	3 0 0– 3 5 0

LEAD.	
English Pig	22 10 0–23 0 0
Ditto sheet	23 10 0– —
Ditto red lead	24 10 0–25 0 0
Ditto white	27 0 0–30 0 0
Ditto patent shot	26 0 0– —
Spanish, in bond	22 0 0– —
American	none.

BRASS.	Per lb.
Sheets	10d.–11d.
Wire	10½d.–11d.
Tubes	13½d.– —

FOREIGN STEEL.	Per Ton.
Swedish, in kegs (rolled) 20	0 0– —
„ arrive (hammered). 21	10 0– —
Ditto, in faggots 18	0 0– —
English, Spring 18	0 0–25 0 0
QUICKSILVER .....p. lb. 0	2 0– —

SPELTER.	Per Ton.
Foreign 26	0 0– —
To arrive 25	0 0– —

ZINC.	
In sheets 33	0 0– —

TIN.	
English, blocks 112	0 0– —
Ditto, Bars (in barrels)..113	0 0– —
Ditto, Refined 115	0 0– —
Banca 115	0 0–116 0 0
Straits 113	0 0–114 0 0

TIN-PLATES.*	
IC Charcoal, 1st qua. p. bx.	1 13 0– 1 15 0
IX Ditto 1st quality „	1 19 0– 2 1 0
IC Ditto 2d quality „	1 11 0– 1 12 0
IX Ditto 2d quality „	1 17 0– 1 18 0
IC Coke ..... „	1 6 6– 1 7 6
IX Ditto..... „	1 12 6– 1 13 6
Canada plates ....p. ton	15 0 0–15 5 0
In London; 20*s.* less at the works.	
Yellow Metal Sheathing..p. lb.	10d.– —
Wetterstedt's Pat. Met. ..p. cwt.	2 2 0
Indian Charcoal Pigs in London	— – 7 10 0

* At the works, 1*s.* to 1*s.* 6*d.* per box less.

REMARKS.—The demand for metals has improved, and the prices of some descriptions have stiffened; nevertheless, the amount of business still continues limited, and insufficient to deem satisfactory. There is no disposition amongst merchants to extend shipments beyond actual orders, or to exceed their limits in any way; consequently it gives a remarkably quiet appearance to everything, and creates a very inanimate market. Speculators evince but little confidence at present, although during the past few days some speculative purchases have been entered into; the transactions, however, have not been of any magnitude.

COPPER.—On Saturday last a special meeting of the smelters took place, when it was resolved that there should be a reduction of 1*d.* per lb. in fixed rates, making present prices 12*d.* per lb. for manufactured sheet and sheathing, and 107*l.* 10*s.* per ton for cake, tile, &c. At the decline several orders have been put in hand, but it does not yet appear that the market is likely to be improved much by the change; it naturally follows that a decline of 9*l.* 10*s.* per ton would created some better demand for a time, but after the first spurt is over it is not at all certain any permanent improvement will be gained by this tardy alteration. In the absence of demand, stocks must have much accumulated, and some time will be required to work them off. The arrivals of ore, and also of foreign cake ingots, have been rather large.

IRON.—For rails more enquiry has taken place, but sellers have been unable to obtain enhanced prices; quotations vary according to section, &c., from 6*l.* to 6*l.* 5*s.*; a parcel a short time since was reported at 5*l.* 15*s.* per ton, but the average price cannot well be quoted below 6*l.* to 6*l.* 5*s.* per ton. In bars there has also been a little better demand, but prices remain almost unaltered; for shipment here direct from the works 6*l.* 12*s.* 6*d.* per ton is the lowest current rate. Swedish bars are scarce, at the same time they are but in limited request. Scotch pigs have slightly fluctuated, 52*s.*, mixed numbers, having been accepted, since which quotations have advanced, 53*s.* 6*d.* being paid, but the market exhibing a slight sign of weakness, holders giving way; the closing price for mixed numbers being 53*s.*, g.m.b. f.o.b. in the Clyde.

LEAD.—Shipping orders are both few and small; the market, however, is sustained by the firmness manifested by sellers.

SPELTER.—This metal has again advanced, sales having been effected at 25*l.* 15*s.* to 26*l.*; the latter price is the closing quotation of to-day.

TIN.—In English there is a good business doing, and prices are firm. Foreign has considerably improved. Straits has changed hands at 113*l.*, and Banca 115*l.*, cash payment. These quotations show a great increase, compared with prices at which business was transacted about ten days since, 108*l.* having been taken for a few slabs, cash. The above prices would, therefore, arise doubtlessly on account of speculative purchases, for consumers would scarcely be prepared to pay so much in such a short time, considering the present dull state of trade. Holders would do well not to endeavour to force the market beyond a legitimate point, otherwise they may feel the result more acutely than they have done hitherto.

TIN-PLATES.—A few merchant orders continue to be given out; stocks in makers' and dealers' hands are large.

LIVERPOOL, APRIL 29.—There has been no variation of importance in our metal market as regards manufactured iron, the demand for which continues to be very limited, and quotations, consequently, must be regarded as merely nominal. Manufacturers and dealers alike are eager to obtain orders, and as yet the demand for export has been on a very small scale. An improved feeling has sprung up with respect to Scotch pig-iron, and a considerable business has been done at somewhat advanced rates, consequent upon a desire to cover sales. The price for immediate settlement was at one time as high as 54*s.* 3*d.*, but has since receded to 53*s.*, at which there are still buyers, being an advance of 1*s.* 6*d.* per ton on the price of this day week. The shipments have been large—say, 15,146 tons, against 14,988 tons for the corresponding week of last year. The improvement observable in the feeling as regards tin, noticed last week, has continued, and prices have a firm and an upward tendency. Tin-plates show more activity, and the pressure to sell has abated; still for a good specification and a fair quantity an order would not be refused, even at a slight concession in price. A reduction of 1*d.* per lb. in the price of copper took place on Saturday last, since which there has been more enquiry. The market is firm at present rates. In lead there is nothing doing of moment. The following are the quotations:—Iron: Merchant bar, 6*l.* 12*s.* 6*d.* to 6*l.* 15*s.* per ton.—Tin: Common block, 112*l.* per ton; common bar, 113*l.*; refined block, 115*l.*—Tin-plates: Charcoal, IC, 32*s.* to 32*s.* 6*d.* per box; coke, IC, 25*s.* 6*d.* to 26*s.*—Lead: English sheet, 24*l.* 10*s.* per ton; English pig, 23*l.* 10*s.*—Copper: Cake and tile, 107*l.* 10*s.* per ton; best selected, 110*l.* 10*s.* per ton; sheathing and bolt, 1*s.* per lb.—Yellow metal sheathing, 10*d.* per lb.—Steel: Blistered, 30*l.* to 40*l.* per ton; spring, 18*l.* to 24*l.*; cast and shear, 50*l.* to 60*l.* per ton.

GLASGOW, APRIL 29.—In the beginning of this week our market was very firm, and prices advanced rapidly from 52*s.* to 54*s.* 3*d.*, at which latter price one transaction took place. Immediately, however, prices again gave way, and yesterday and to-day there were sellers at 53*s.* 3*d.*, cash. The rise in the beginning of the week was attributed to the large shipments, and slightly increased demand for shipping iron. No. 1, g.m.b., 52*s.* 6*d.*; No. 3, 52*s.*; No. 1, Gartsherrie, 57*s.* Shipments, 15,146 tons, against 14,988 tons last year.

An entirely different feeling from that which has been for some time exhibited appears to have suddenly come upon all connected with the MINING MARKET, which has, within the past few days, shown evident signs of activity; and as there is an abundance of money, and the rate of discount is extremely low, there is every prospect of the improvement continuing. The recent fall in the price of copper has placed the copper market in a far more satisfactory position, and the shares in copper mines have, consequently, been more readily saleable, although in most instances lower prices have been accepted. Copper has now, doubtless, reached its lowest point, and this opinion has probably caused many capitalists to come in, and by so doing they can scarcely fail to realise large profits for their investment. The price of shares in tin mines has not been so much affected, but this is easily accounted for. There has been no variation in the quotation for tin, and looking at the supply and demand, it seems certain that the only change which is at all probable to take place would be in favour of the producer. Many projected companies which have long remained in abeyance, owing to the apathetic state of the market, are now being brought forward, and one or two of the foremost have experienced little difficulty in obtaining the required capital. Several prospectuses have already been issued, and it is gratifying to find that there is an evident desire to appoint directors practically connected with commerce, in preference to gentlemen with aristocratic names, and little else to recommend them; and that from the encouragement which the new Joint-Stock Acts give for securing privileges to *all* companies, which were previously granted only in exceptional cases to those who were fortunate enough to obtain a royal charter of the most favourable description, capitalists embark with considerably more confidence than they have ever before been enabled to. As regards the mines themselves, there has been but little change worthy of remark. Wheal Trelawny has declared a dividend of 1*l.* per share, and Wheal Exmouth 2*s.* 6*d.* per share. A magnificent lode has been discovered in Wheal Florence, at Lydford, which was abandoned some five years since as worthless for a lead mine; and amongst the ore broken are some excellent specimens of ruby silver, some of them containing nearly half pure silver, and some native silver. Three specimens have been assayed by the Messrs. Johnson and Matthey, and gave the following results:—No. 1, galena (argentiferous), 1086·25 ozs. of fine silver to the ton of ore; No. 2, ditto, associated with white carbonate of iron, 592·15 ozs. of fine silver; and No. 3, sulphide of silver, with a small proportion of native silver, associated with lime and quartz, 4532·5 ozs. of fine silver to the ton of ore. South Crowndale shares are attracting some attention, but they are only selling at 10*s.*, or 3000*l.* for the mine; whilst Crelake, where the prospects are similar, and it is said certainly not superior to South Crowndale, were issued at 2*l.* per share, and have been selling at 5*l.* Great Alfred opened well, but receded during the week to 5¼, 5⅜, with a call of 4*s.* 6*d.* paid. In East Russell a large business has been done, at prices varying from 5¼ to 6⅜, but leave off at 6⅜ to 6⅞. North Basset in demand, at 10 to 10¼; West Basset, 22 to 23; Providence in demand, at 67½ to 70; Margaret, 50 to 55, and in demand; Basset, 220, and in demand; Buller, 290 to 300; South Caradon, 390 to 400; Wheal Edward very flat in the beginning of the week at 55¼, but leave off a shade better; Devon Great Consols, 460 to 470; Mary Ann, 44 to 45, and in demand; Alfred Consols, 10¼ to 11, not quite so firm; Vale of Towy, 23*s.* to 25*s.*; Sortridge, 1¼ to 1⅜, flat; East Gunnis Lake, 2; Herodsfoot in demand, at 8⅛ to 9. Hingston Down, 5¼ to 5⅜; the mine still looks well, yet the shares remain low. Grambler and St. Aubyn, 115. East Basset in great demand, at 100 to 105; in the 80 cross-cut a branch of copper ore, 3 in. wide, has been cut, which looks as if the lode were not far off. North Frances very flat, at 7 to 7⅛; these shares are cheap at present prices. Lady Bertha, 20*s.* to 21*s.*; Uny, 5 to 5⅛. Trelawny, 23¼ to 24½, with the dividend of declared on Monday. Wheal Arthur in demand, at 4¼ to 5; the mine is looking well, and shares considered cheap at present prices. Lewis, 1⅛ to 1⅜; North Robert, 4 to 4⅛; Wheal Grenville very flat at 1¼, although the mine is looking very well indeed. Great South Tolgus, 14 to 14⅛; Harriett, ⅞ to ¾; Tolvadden, 6¾ to 7; Tamar Consols, 20*s.* to 21*s.*; Treweatha, ⅞; Pendeen, 3¾ to 4, and in demand; West Curadon, 102¼ to 107½. Margery, 11 to 11¼, and in demand; they sampled 215 tons on Thursday. North Downs, 1⅜ to 1⅝.

At Redruth Ticketing, on Thursday, 3149 tons of ore were sold, realising 16,318*l.* 6*s.* 6*d.* The particulars of the sale were—Average standard, 126*l.* 11*s.*; average produce, 6¼; average price, 5*l.* 3*s.*; quantity of fine copper, 197 tons 7 cwts. The sale at Camborne, on Thursday next, will be 3519 tons.

At Swansea, on Tuesday, 1598 tons of copper ore realised 27,783*l.* 2*s.* Cobre Mines had 601 tons, which sold for 8978*l.* 13*s.*—two lots fetching over 66*l.* per ton; Knockmahon, 582 tons, 5035*l.* 15*s.*; Springbok, 245 tons, 7314*l.* 14*s.*; Wheal Maria, 84 tons, 1986*l.* 8*s.*; the other parcels were from Berehaven, Estrella, Ballyvirgin, Bahamas, San Blas, Nassau, Spanish, and Dyliffe.—The next sale, on May 11, will be of 1598 tons, from Cobre, Huelva, Algiers, Bahamas, Wheal Maria, Springbok, Namaqualand, Great Barrier, Estrella, and Bampfylde Mines.

The arrivals at Swansea include—From Caldera, 564 tons copper regulus, and 140 tons copper ore; from St. Jago de Cuba, 1016 tons copper ore; from Coquimbo, 523 tons copper regulus, and 87 tons copper ore; from Aveirs, 242 tons copper ore; from San Sebastian, 61 tons of calamine; from Carthagena, 260 tons copper ore.

The following dividends have been declared during April:—

Mines.	Per share.	Amount.
Copper Miners of England	£ —	£24,620 12 6
West Seton.....	8 0 0	3,200 0 0
South Caradon	10 0 0	2,560 0 0
Basset	5 0 0	2,560 0 0
Great South Tolgus	0 7 0	2,100 0 0
Carn Brea	2 0 0	2,000 0 0
Dolcoath	10 0 0	1,790 0 0
Lisburne	3 0 0	1200 0 0
Trelawny	1 0 0	1,040 0 0
Devon and Cornwall.....	0 5 0	1,019 0 0
Edward	0 5 0	1,000 0 0
East Daren.....	3 0 0	900 0 0
Alfred Consols	0 3 0	768 0 0
Exmouth.....	0 2 6	712 5 0
Total.....		£45,469 17 6

At Wheal Trelawny meeting, on Monday (Mr. J Philp in the chair), the accounts showed—Balance last audit, 1488*l.* 10*s.*; ore sold, 6002*l.* 5*s.* 2*d.*=7490*l.* 15*s.* 2*d.*—Mine cost and merchants' bills, Dec., Jan., and Feb., 5046*l.* 5*s.* 2*d.*: leaving balance in favour of adventurers, 2444*l.* 10*s.* A dividend of 1040*l.* (1*l.* per share) was declared. The nett profit on the two months' working was 956*l.*, and after payment of the dividend the amount carried to the next account was 1404*l.* 10*s.* Capt. John Prince reported that the stopes and pitches were producing about the usual quantity of ore. The engines and pitwork were in good working order.

At Wheal Arthur meeting, on Thursday (Mr. Alfred Richards in the chair), the accounts showed a balance in favour of adventurers of 805*l.* 19*s.* 4*d.* A call of 10*s.* per share was made, and a resolution passed to take proceedings in the Stannaries Court against all defaulters in arrear of calls prior to Feb. 25 last. The committee and auditors were reappointed. Capt. T. Carpenter reported that on the north lode the adit level was driven 8 fathoms, the last few fathoms of which have averaged 8*l.* per fathom, while the lode in the back is worth 12*l.* per fm. There are upwards of 100 fathoms in length west on the course of this lode to be explored, all in entirely new and untried ground, which will, no doubt, prove productive, as they have obtained 50,000*l.* worth of ore from this lode during the last six years in the western part of the mine; and the 20 cross-cut north, now driving by six men, will lay open a valuable mine when the lode referred to is discovered.

At Cwm Sebon Mine meeting, on Thursday (Mr. Charles Chatfield in the chair), the accounts showed a balance in favour of the adventurers of 52*l.* 14*s.* 10*d.* The accounts were unanimously passed. It was fully expected that the returns for the next three months would meet the costs, and the prospects were considered satisfactory.

At Willow Bank Mine meeting, on Thursday (Mr. W. F. D'Arcy in the chair), the accounts showed a balance in favour of the adventurers of 23*l.* 10*s.* 10*d.* A call of 1*s.* 6*d.* per share was made. The mine is improved. The 30 east is valued at 8 cwts. per fm., and there is every prospect of returns being made before long.

At the Cargoll Mine meeting on Tuesday the accounts showed—Balance last audit, 162*l.* 3*s.* 3*d.*; lead ore sold (deducting 146*l.* 7*s.* 8*d.* dues), 1996*l.* 8*s.* 3*d.*=2138*l.* 11*s.* 6*d.*—Labour cost, surgeon, and club, Dec., 415*l.* 4*s.* 1*d.*; Jan., 450*l.*, 12*s.* 11*d.*; Feb., 470*l.* 19*s.* 9*d.*; merchants' and other bills, 633*l.* 15*s.* 2*d.*; coals, 169*l.* 13*s.* 7*d.*; interest, 18*l.* 6*s.*=2158*l.* 11*s.* 6*d.* Capts. John Champion and John Grose reported upon the operations at the mine. They will offer for sale, on Friday, 58 tons of lead ore.

At the East Rosewarne Mining Company meeting, yesterday (Mr. J. E. Mathew in the chair), the accounts showed a balance against adventurers of 37*l.* 1*s.* 7*d.* A call of 5*s.* per share was made, and the committee of management re-elected. Capts. John Delbridge and John James reported favourably of the mine. A full report of the meeting will appear in the *Mining Journal* next week.

At Wheal Clifford meeting, on April 21, the accounts showed—Balance last audit, 418*l.* 17*s.*; labour cost, Feb. and March, 1457*l.* 4*s.* 2*d.*; tribute, 307*l.* 9*s.* 10*d.*; merchants bills, 1039*l.* 9*s.*; half of Wheal Andrew engine, 169*l.* 16*s.* 3*d.*; United Mines tribute, 108*l.* 16*s.* 8*d.*; engine cost, 2316*l.* 7*s.* 6*d.*=5818*l.* 0*s.* 5*d.*—Ore sold (deducting 202*l.* 1*s.* 4*d.* dues), 3839*l.* 10*s.* 7*d.*; sundry receipts, 37*l.* 8*s.* 8*d.*: leaving balance against the mine, 1975*l.* 1*s.* 2*d.* The profit on the two months' working was 760*l.* 3*s.* 4*d.* Capts. J. Richards and J. Davey reported favourably upon the position and prospects of the mine.

At Copper Hill Mine meeting, on Tuesday, the accounts showed—Balance last audit, 397*l.* 17*s.* 9*d.*; mine costs and merchants' bills, December to March, 2511*l.* 15*s.* 6*d.*=2909*l.* 13*s.* 3*d.*—By ores sold, Dec. and March (less dues), 1243*l.* 8*s.* 9*d.*; call made Dec. last, 1280*l.*: leaving balance against adventurers, 386*l.* 4*s.* 6*d.* A call of 5*l.* per share was made.

At North Wheal Crofty meeting, on Tuesday, the accounts showed—Mine cost, Jan., 451*l.* 16*s.* 6*d.*; Feb., 375*l.* 2*s.* 7*d.*; tribute balances, 350*l.* 14*s.* 1*d.*; merchants bills, 500*l.* 18*s.* 7*d.*=1678*l.* 11*s.* 9*d.*—Copper ore sold, 710*l.* 4*s.* 7*d.*; tin sold, 543*l.* 5*s.* 4*d.*; arsenic sold, 36*l.* 8*s.*: leaving balance against mine, 388*l.* 13*s.* 10*d.* A call of 6*s.* 10½*d.* was made. Capt. Joseph Vivian reported, that although they cannot raise sufficient ore to meet current expenses on the working, their prospects are by no means gloomy.

At Abbey Consols meeting, on Tuesday (Mr. S. Haydon in the chair), the accounts showed—Balance last audit, 253*l.* 14*s.* 1*d.*; mine cost, three months ending March, 772*l.* 3*s.* 1*d.*; merchants' bills, 271*l.* 17*s.* 10*d.*; royalty, 37*l.* 10*s.* 4*d.*; office expenses, three months, 20*l.* 1*s.* 11*d.*=1355*l.* 7*s.* 5*d.*—Calls received, 937*l.* 10*s.*; Mr. Haydon, loan, 300*l.*: leaving balance against mine, 117*l.* 17*s.* 3*d.* The balance of liabilities over assets was 864*l.* 19*s.* 10*d.* A call of 2*s.* per share was made, and Messrs. Haydon, Forster, Wright, and Sharp appointed the committee for the ensuing three months. A lease has been agreed to be granted by the Crown for the water-course and pond used by the company, at 8*l.* per annum, the names of Messrs. Church, Forster, and Battye being given as lessees, the shareholders agreeing to indemnify them against all claims and expenses incurred. Capt. James Skimming reported that during the past two months considerable progress had been made, both underground and at surface, although part of the time operations were impeded from frost and severe weather. Every effort is making for the speedy erection of the machinery, and the western shaft he hopes will be in operation early next month. Each visit inspires him with renewed confidence. Time will com-

plete the mechanical arrangements, and open further reserves in depth. Capt. Trewin reported upon the several points of operation in the mine. They have dressed about 30 tons of lead ore.

At Wheal Glynn meeting, on Monday (Mr. James Eives in the chair), the accounts showed a balance against the mine of 263*l.* 10s. 6d. A call of 6s. per share was made. Capt. Vercoe reported upon the operations at the mine. They will sample the lead dressed next week, and hope the next sale will exceed the present.

At Bwlch Consols meeting, on Tuesday (Mr. S. Haydon in the chair), the accounts showed—Balance last audit, 230*l.* 6s. 8d.; calls received, 419*l.* 5s. 6d.; ore sold, 912*l.* 18s.; loan from bankers, 350*l.* = 1912*l.* 10s. 2d.—Mine cost, 875*l.* 5s. 5d.; merchants' bills, 214*l.* 7s.; repaid to bankers, 350*l.*; royalty, 156*l.* 15s. 6d.; discounts and interest, 9*l.* 11s. 7d.; London office expenses, 29*l.* 8s. 4d.; committee's allowance, 9*l.* 5s.; leaving balance in favour of mine, 267*l.* 16s. 4d. The balance of assets over liabilities was 149*l.* 14s. 4d. A call of 1s. per share was made. Messrs. Haydon, Doring-ton, and Church were elected the committee for the ensuing three months. Capt. Robert Northey reports that the work which he would recommend to be carried out is to drive the 60 west with all possible speed; sink a winze further west in the 50, to ventilate the 60 by the time it reaches the ore ground; sink Pwllthrynaid shaft about 9 feet deeper; and then drive the 70 west, which will reach the ore ground gone down in the 60, about 10 fms. from shaft. All the machinery is working well.

At Sortridge Consols Mining Company meeting, on Tuesday (Mr. W. A. Thomas in the chair), the accounts showed a balance in favour of mine of 2408*l.* 0s. 3d. The report and accounts were unanimously adopted, and the committee of management re-elected. The meeting was made special, for the purpose of rescinding the fourth rule and substituting a new one, for the meetings to be held every four months, instead of every three months, which was carried unanimously. The proceedings, which are detailed in another column, terminated with a vote of thanks to the Chairman.

At Great Wheal Baddern meeting, on Tuesday, a resolution was passed to confirm the proceedings of a meeting held April 13, and reported in the *Mining Journal* April 17, when it was resolved that steps be taken for an immediate reduction of the monthly cost, with a view to the ultimate abandonment of the mine, and the realisation of the assets. It was now proposed that the mine should be abandoned.

At Gwydyr Park Consols Mining Company meeting, on Monday (Mr. Hall in the chair), the accounts showed—Balance last audit, 2*l.* 13s. 3d.; calls received, 384*l.* 18s. 2d.; interest on overdue calls, 1*l.* 1s. 3d. = 388*l.* 12s. 8d.—Mine cost, due last account, 11*l.* 15s. 5d.; Jan., Feb., and March, 99*l.* 12s. 4d.; merchants' bills, due last account, 28*l.* 7s. 7d.; Jan., Feb., and March, 19*l.* 5s. 5d.; miscellaneous, 49*l.* 12s. 6d.; London expenses, due last account, 39*l.* 15s. 7d.; Jan., Feb., and March, 16*l.* 10s.; stationery, due last account, 3*l.* 15s.: leaving balance in favour of adventurers, 119*l.* 18s. 10d. The accounts were unanimously adopted.

At the South Cuddra Copper Mining Company meeting, on Wednesday (Mr. G. P. Nicholls in the chair), the accounts showed a balance in favour of adventurers of 2*l.* 11s. 7d.; and in the estimated accounts of assets and liabilities the balance against the mine was 781*l.* 14s. 9d. A call of 2s. 6d. per share was made. The proceedings (which are fully reported in another column) terminated with a vote of thanks to the Chairman.

Great South Tolgus sampled, on Wednesday, 208 tons.

The Fortuna Company's report (April 19) states the tribute department continues without any material alteration, and surface operations going on much as usual.

The Linares Lead Mining Company's report (April 19) states that the tribute pitches throughout the mine are looking moderately well. The surface operations are going on uninterruptedly.

The Royal Santiago Company have advices to March 24: The new Isabella shaft, sinking below the 32, continues favourable for sinking. In the 32 east the lode is 1½ to 2 feet wide, producing 1½ ton of ore per fathom. In the winze sinking below the 32 east the lode is 3½ ft. wide, worth 2 tons of ore per fathom. In the stopes in back of the 32 east, or bottom of the 22, the lode is 1½ ft. wide, producing 1½ ton per fathom. In the 32 west the lode is 2 ft. wide, producing 1½ ton per fathom. In the stopes in the back of the 32 west the lode is 1½ ft. wide, producing 1½ ton per fm. In the 22 east, on Junction lode, the lode is 1 ft. wide, yielding 1 ton per fm. In the 22 east the lode is at present poor. In the winze below the 22 east, on Junction lode, the lode is 3½ ft. wide, and worth 2½ tons of ore per fm.; not quite so good as formerly. In the 22 west the lode is 2½ ft. wide, with spots of ore. In the 10 east the lode is 1 ft wide, producing ⅛ ton of ore per fm. In the stopes in the back of the 10 the lode is 1¼ ft. wide, and producing 2 tons of ore per fathom.

At the Western Africa Malachite Mines meeting, on April 21 (Mr. H. Wrench in the chair), the report of Messrs. John Taylor, jun., and Richard Taylor, explaining what they had done in relation to their trust, was read. On Feb. 2 the company was incorporated; the whole number of shares speedily allotted; and also 200 of the vendors' shares, which the directors induced them to place at their disposal. The vendors obtained from the Government of Portugal license to grant a lease to the company when formed, on condition that the statutes of the company be approved by that Government. The license was laid before counsel, with instructions to draw the lease to the company, and advise as to the best method of carrying out the agreement for the benefit of the company. Counsel pointed out objections to a lease, and advised that it would be to the interest of the company to obtain a concession direct from the Portuguese Government, which advice the directors adopted; and on Feb. 9 last sent out a petition to the King of Portugal, together with a copy of the Articles of Association, and the other necessary documents, in order to obtain a concession, and on March 26 a portaria was obtained. Of the shares issued to the vendors (85*l.* paid) 200 remain in the hands of the directors, which the vendors agree to transfer to any friends nominated by Messrs. Taylor.

At the Nouvelle Montagne Zinc and Lead Mining and Smelting Com-pany meeting, at Engis (Mr. Armand Simonis in the chair), the reports of the councils of administration and surveillance, and of Mr. Victor Simon (the director-general), were submitted and approved. The council of surveillance expressed their satisfaction at the regularity with which the office business had been conducted, and the correctness of the accounts. Mr. Simon's report explains the progress of the mines and smelting-works during the year, and their present position. During 1857 there were produced 2800 tons of zinc and lead, the profits from which admit of 180,000 frs. being applied to amortisation, and 40,500 frs. to the increase of the reserve fund, and of the declaration of a dividend of 75 frs. (3*l.*) per share, 50 frs. of which will be payable on July 1 and 25 frs. on December 31, likewise allowing the repayment of the eighth twelfth part of the loan and of the payment of the interest.

At the London Joint-Stock Bank special general meeting, on Thursday (Mr. Ormsby Gore, M.P., in the chair), called for the purpose of making certain alterations in the deed of settlement, Mr. Lancaster, a director, in proposing the resolution, remarked that it was intended to apply to future vacancies in the direction. As the deed now stood the qualification was that every shareholder who held at least 100 shares should be duly qualified for a seat at the board, but he must hold those shares for six months. They had no intention of making an alteration in the qualification, but proposed that the time limited for holding the shares should be three months. And by the 22d clause of the deed of settlement they could fill up any vacancy in the board in three months; this it was proposed to alter to six months, the object being to afford greater facilities in filling up vacancies as they might occur, and give the shareholders a better opportunity of looking out for proper persons. The bank had obtained a world-wide reputation, and he thought they ought to have gentlemen connected with commercial establishments on the direction. He was making the proposition with the concurrence of the board of directors, who had every confidence that it would conduce to the prosperity of the bank. Mr. Ambrose Moore explained that the alteration gave additional power to the shareholders, as at the present time the directors, if they thought proper, could beat the shareholders by bringing on the election in three months and putting in their own nominee. A resolution to the following effect was then proposed, seconded, and carried unanimously:—That in future to qualify a shareholder for the board it shall be necessary to hold 100 shares for three months instead of six, and that upon a vacancy occurring it shall not be filled in less than six months instead of three. The proceedings then terminated with a vote of thanks to the Chairman and directors.

The Great Barrier Land, Harbour, and Mining Company have convened their first annual meeting for Friday.

The certificate of Mr. Thomas Holland, broker, of Fenchurch-street, was altogether refused, on the ground that the bankrupt had issued accommodation bills to an enormous amount, and that he had raised money for his own purposes on goods without the consent of the owner.

In the Foreign Mine Share Market, during the week, business has been done in the following:—St. John Del Reys, although not quite so firm, have been in demand, and left off 13⅛ buyers; the profit monthly has been gradually increasing and will continue to do so. Linares have slightly declined, although advices received state the mine is looking as well as heretofore; price 9¼ to 9¾. Cobre, 40 to 42. Mariquita have advanced within the last few weeks, and left off at ⅞ to 1. In Bon Accorda a considerable business has been done at ¾ to ⅞; a meeting is called for Friday next. Imperial Brazilian 2 to 2¼. General Mining Association (Nova Scotia), 18. Santiago have been flat, present price 1¾ to 2¼; the advices received, dated March 24, are of the same character as the preceding ones. Copiapos have been in request, and left off 13½ buyers. Western Africa Malachite, 100; by advices dated Feb. 14, the staff sent out would reach the mine in four days after, so that good results may be early looked for. Other descriptions of stock remain quiet.

THE AUSTRALIAN MAIL.—MALTA, APRIL 30.—The steam-ship *Emeu* arrived on the 23d at Suez with the Australian mails, their dates being from Sydney to March 11, from Melbourne to the 17th, and from King George's Sound to the 23d, with 122 passengers and 4864*l.* in specie. The January mail, per *European*, reached Melbourne on the 11th. The threatened commercial crisis had passed away. The supply of gold was increasing. Imports checked. Money plentiful, and prices steady. Money securities rising. There has been a change of Ministry. What was left of the Haines Cabinet resigned on Feb. 23. On March 2 Mr. Chapman was sent for: the new Ministry consists of O'Shanassey, Chief Secretary; Chapman, Attorney-General; Arker, Treasurer; Miller, Trade; Duffy, Land and Works; Irland, Solicitor-General; Twans, Post-master-General. The construction of the Ministry gave satisfaction. Mr. Gabricilli arrived by the mail, empowered to find means to construct the railways. The Parliament of New South Wales was to meet on the 23d. Bank shares and other securities had declined, owing to the tightness of money, combined with bad news from England. A forgery had transpired to the amount of 20,000*l.* on the Australian Joint-Stock Bank, upon a letter of credit purporting to come from Messrs. Baring Brothers. The yield of the gold fields had improved. The Adelaide markets were steady. Flour was 30s. per ton dearer.

LIVERPOOL, APRIL 30.—The Black-Ball clipper ship, *Invincible*, Johnstone commander, has arrived from Melbourne with dates to Feb. 16, being one day later than those brought by the *Simla*. She has 195 passengers, 1760 bales of wool, 5857 bags of copper ore, and 20,000 ozs. of gold dust. The projected departures for London were—*William and Jane*, early; *Medway*, early; *Indemnity*, Feb. 23; and the *Maidstone*, March 8. The *Red Jacket* was to sail for Liverpool on March 1, and the *Royal Charter* on April 1. The Sydney advices state in the week ending Feb. 30 securities had maintained previously quoted prices. Further discoveries of a new and good country are reported to have been made in New South Wales.

THE MONSTER NUGGET AT THE CRYSTAL PALACE.—This enormous nugget, which weighs 1743 ozs., or nearly 146 lbs., and of which it is estimated only 6 ozs. is dross, the remainder being pure gold, will be on view at the Crystal Palace for the first time to-day. The nugget is 2 ft. 4 in. in length; in shape is somewhat like a saddle, and when the sun is reflected by it, it has a magnificent appearance. The finders were Robert and James Ambrose, natives of Gravesend, upwards of eleven years in the colony; and Charles and S. H. Napier, natives of New Brunswick; the former had been in Australia five years, and the latter two months. The Governor of Victoria and his daughter inspected the nugget while on exhibition in Melbourne, and, with his Excellency's permission, it was named after his daughter the "Blanche Barkly Nugget."

DESTRUCTION OF FIRE-DAMP.—In the *Mining Journal* of March 15 we referred to an invention intended to effectually accomplish this desirable object, and which is offered upon highly favourable terms to those interested. The sum of 1000*l.* is to be placed in the hands of a notary in Paris, and paid to the inventor for communicating his secret when he has proved the efficacy of his system, by working his apparatus in any coal mine that may be named. In reference to this invention, we have received the subjoined letter:—

[TRANSLATION.]—SIR: We read daily in the newspapers of all countries the shocking details of explosions caused by fire-damp in collieries, and the frequency of these disasters proves that hitherto there has been applied but inefficient palliatives against this plague; indeed, the Davy lamp, called a safety-lamp, does not prevent explosion, whilst frequently it is the cause of it, as is proved in the majority of these casualties, and lately by the explosion at Aberdare, on Feb. 23, whereby 19 miners were killed. The report says—"The opinion entertained is that some of the stones, in their descent from the headway, struck and broke his safety-lamp, and that the naked flame coming in contact with the full volume of gas ignited it, and caused the explosion which resulted so fatally. The body of a man was found quite dead close to this spot; but his safety lamp, which had been given him in common with the other men, securely locked, could not be found. By the bodies of the other 18 men, the lanterns were all found, safely fastened and uninjured." From these remarks it will be seen that the Davy lamp should cease to be considered as ensuring safety for these reasons. Although it is good to interpose the gauze wire between the flame and the explosive gases, it becomes dangerous so soon as any soot attaches itself to the gauze; for this soot, composed of smoke-black, arrives at an explosive point (white heat, nearly), and as soon as the air in the level attains the proportion of (say) 5 to 6 per cent. of gas mixed with air, an explosion is imminent in the entire level. This effect is always preceded by a crepitation round the lamp; this is nothing but fire-damp playing against the exterior of the wire gauze charged with incandescent smoke black. The same inflammatory effect may be noticed when the current of air in the level agitates the flame in the lamp, which not remaining in the centre of the gauze, heats it to redness. Experience teaches us that where the air does not contain more than 3 per cent. of gas, inflammation cannot take place, so that in all cases the wire gauze is superfluous. My apparatus never permits the air in the level to become charged with a sufficient quantity of gas to constitute fire-damp and cause explosion. For it may be remarked that fire-damp is not the direct product of the mine, and that explosion can only ensue from the carburetted hydrogen being mixed with atmospheric air, when it takes the name of fire-damp. By my process the mixture has no time to cause accident, for there is no place in the levels, or elsewhere, but will be purged from gas every five minutes, or oftener, if required, without the attention of the miners being diverted from their work, although the operation is within sight and knowledge of all employed in the mine. The apparatus complete costs 100*l.* If (say) five collieries combine to subscribe the 1000*l.* as above, each of the contributors can employ the apparatus, which will cost them in addition 100*l.* each, being equal to 1500*l.* for the five collieries. It will definitively put aside routine—the cause of so many accidents, yet so firmly engrafted in the minds of those who, habituated to mining, believe themselves invulnerable, because they have never been more than slightly injured by fire-damp, and the idea that not alone explosions, which kill them on the spot, occur, but that they become asphyxiated by the sudden formation of carbonic acid, does not trouble them. These considerations combined should induce collieries to adopt with eagerness the apparatus that I offer on the above conditions, and the working of which is so simple that only the most ordinary care is required. Two recent explosions in Belgium have cost the lives of 43 miners, and it seems to me that no more time should be lost in applying means o preserving the lives of so valuable a class of men as the working miners, whose lives are daily more menaced as they penetrate further into the bowels of the earth.—C. J. DE MAY: 20, *Rue Bergère, April* 21.

MUSHET'S CAST-STEEL.—From an advertisement in another column, it will be seen that Mr. Mushet is really manufacturing steel, and offers to supply it at 3d. per lb., or 28*l.* per ton. It is said to be suited for all engineering and mining purposes, and equal in quality to that melted from the first marks of Swedish iron.

IRON-MAKING IN NORTHAMPTONSHIRE.—There have been 401 tons of pig-iron made at the Heyford Iron-works, Northamptonshire, from two furnaces, during the fortnight ending April 22, consisting of—No. 1, 3 tons; No. 2, 28 tons 10 cwts.; No. 3, 193 tons 10 cwts.; No. 4, 167 tons 10 cwts.; mottled, 7 tons; castings, 1 ton 10 cwts. The large proportions of Nos. 3 and 4 were made to complete orders for those numbers.

IRON SHIPBUILDING IN GREENOCK.—Since 1840, Messrs. Caird and Co. have built vessels with an aggregate tonnage of 49,874; since 1852, Messrs. Scott and Co., Cartsdyke, have launched 22,302 tons, and Messrs. John Scott and Son 9252 tons; and since, September, 1854, Messrs. Robert Steele and Co. have built iron vessels to the amount of 11,581 tons.

FAILURE IN LARGE CASTINGS BY GOVERNMENT.—As previously stated the utmost difficulty has been experienced since the opening of the new Royal Standard Gun Foundry, at Woolwich Arsenal, in casting and completing heavy ordnance. After numerous failures it was stated a few days since that the obstacles were overcome, and that two perfect guns had been produced. It turns out, however, that these two 68-pounders, on proof, have been pronounced unfit for service. In consequence of the strange fact that, with all the appliances at hand, it appears impossible to produce heavy guns at this establishment, orders have been given for a supply of no less than 700 of the largest class of siege guns from the Lowmoor and other foundries, at the increased price of 20*l.* and 24*l.* per ton, being an augmentation of from 6*l.* to 8*l.* per ton. Several of these guns have already arrived at the Arsenal in steamers from the north. The subject is of national importance, and will doubtless engage the attention of Government.

GLAMORGANSHIRE.—The iron mine recently discovered near the Llan-trissant Railway station, to which we have before alluded, proves more abundant than was at first expected. Mr. R. Plant who, as we are told, has taken the task of proving it single-handed, and at his own risk, has discovered a very large quantity, said to be millions of tons. This will no doubt lead to the erection of works, as it is clear iron can be made there cheaper than at any other place as yet discovered in this iron-producing country. The mine is called semi-hematite, is found on the limestone, and has been worked a little at some very remote period. In sinking a hole a few days ago, the men dropped into a large open chamber from which the old men had taken the mine. Many other places of this description have also been found; and how so important a place should have been so long overlooked is to us a matter of surprise. The iron mine contains by analysis from 60 to 70 per cent., and no doubt in the furnaces will average fully from 50 to 60 per cent. It is raised at a very low price, being at surface. The great abundance of coal, clay, ironstone, and limestone, justifies us in expecting the erection of iron-works. The owners of property in this locality are much indebted to Mr. Plant for the discovery, inasmuch as it will doubtless increase the value of the surrounding property. But few men, if any, would have undertaken, single-handed, so great a task. We consider him to have shown good judgment and great courage. His Lanlay pit, which is about 300 feet, has been a very expensive matter, and has been in hand night and day more than two years. It is now standing for the erection of pumps, &c. The Trecastle Colliery is producing coal.

THE RHYDYDEFED COLLIERY COMPANY (limited).—A petition for the winding-up this company was presented to the Court of Bankruptcy by Mr. S. P. Harris, Park-place-terrace, Paddington-green, late secretary to the company, who claimed arrears of salary of 74*l.*, and the matter was heard yesterday. Mr. Lawrance, for the petitioner, asked for an adjournment, to enable him to answer some affidavits which had just been filed. Mr. Linklater, for the company, opposed the application. The petition was the most imprudent attempt of the kind that he had ever known made. Mr. Lawrance was prepared to go into the facts, and show that the company was insolvent. Mr. Linklater protested against imputations of this kind, and said that the company had already been injured by the advertisement of this petition. So far from the company being involved, they were in a good position, and paid ready money for everything. The petitioner claimed for salary up to August last, but he had been dismissed for misconduct in the February preceding. He asked that the petition should be dismissed, on the ground that the petitioner's claim could not be made the subject of such a proceeding as this. Some of the items of the claim arose before the company had any existence as a limited company; for it was only incorporated in July, 1856. His honour said that as the affidavits had only been filed the day before yesterday, he thought that time ought to be given to answer them. He was convinced that no harm could arise to the company from a short adjournment. Mr. Linklater complained of undue publicity having been given to the case by the appearance of the advertisement in the *Daily News* and *Mining Journal*. The adjourned hearing was fixed for Wednesday next.

The LIVERSEDGE IRON COMPANY is in the course of winding-up, a peti-tion for that purpose having been presented by Mr. William Gray, which is expected to be heard on Friday.

In the EAST DEAN COAL AND IRON MINING COMPANY, notice has been given for creditors to come in and prove their debts, and until they do so that they will be precluded from commencing or prosecuting any proceedings for the recovery of the same. The Vice-Chancellor has fixed May 10 for the appointment of an official manager.

MEXICAN AND SOUTH AMERICAN COMPANY.—On Saturday, when the cases of Mr. Barclay and Messrs. Finlay, Hodgson, and Co., were called on before the Master of the Rolls, he was called upon to decide whether the creditors, by their representative, were entitled to be present, and to take part in the proceedings under the winding-up, which question the chief clerk had remitted to him for decision. The Master of the Rolls gave his judgment in favour of the claim of the creditors, but as the matter was so important he considered it desirable the opinions of the Lords Justices should at once be taken, and in the meanwhile the proceedings in the two cases referred to should be suspended. The case was called on yesterday before the Lords Justices, but adjourned till to-day.

NEW COPPER COMPANY AT BRITONFERRY.—A new copper company is in course of formation at Britonferry, Mr. F. F. Bankart being its leading promoter. The buildings are, we understand, on the point of being commenced, and it is anticipated that the works will be in operation towards the end of the year.—*Swansea Herald.*

LEAD ORES.

Sold on the 17th April.

Mines.	Tons.	Price per ton.	Purchasers.
Rhewydol and Bacheiddon	37	£14 5 6	Walker, Parker, & Co.
Dyfngwm	12½	14 0 6	ditto
Aberdovey	19½	13 18 6	ditto
ditto	10½	14 2 6	ditto
Sold on the 26th April.			
Foxdale	100	15 6 6	Walker, Parker, & Co.
Treweatha	16	25 1 0	Sims, Willyams, & Co.
Sold on the 28th April.			
Dyliffe	50	14 3 6	Walker, Parker, & Co.
Llanerchyr-Aur	50	14 8 6	ditto
Minnigaff	35	13 13 0	ditto
Minera	96	14 15 0	White Grit Co.
ditto	90	14 15 0	ditto
ditto	14	14 10 0	ditto
ditto	2	16 17 6	Walker, Parker, & Co.

BLACK TIN.

Sold on the 20th and 24th April.

Mines.	Tons	c.	q.	lbs.	Price per ton.	Amount.	Purchasers.
Great Hewas United	6	4	3	13	£63 0 0	£ 393 6	6—Daubuz.
ditto	2	0	2	23	56 5 0	114 9	8— ditto
ditto	8	6	2	13	63 0 0	524 16	9—Williams.
ditto	1	10	1	5	56 5 0	85 4	1— ditto
Sold on the 23d April.							
Wheal Bal	8	5	1	10	61 0 0	504 5	6—Chyandour.
Sold on the 24th April.							
Great Wheal Busy	7	10	3	25	—	418 0	4—Bisoe Co.

COPPER ORES.

Sold at LIVERPOOL, 23d April.

	Tons.	Price per ton.	Purchasers.
Lot 1. (ORE)	2½	£24 2 0	Vivian and Sons.
Lot 2. (REGULUS)	8	5 17 6	Bridgewater Co.
Lot 3. ("CASCARA")	10	43 7 6	Pocket Nook Co.

Biddings were also made by Messrs. J. Keys and Son; and J. Bibby, Sons, and Co.

COPPER ORES.

Sampled April 7, and sold at Swansea April 27.

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Cobre	99	11¾	£10 10 0	Springbok	45	30⅞	£28 16 0
ditto	97	12	10 5 0	ditto	5	6⅜	57 15 6
ditto	95	11¾	10 4 6	Wheal Maria	38	25⅛	23 2 0
ditto	87	11⅝	10 13 0	ditto	46	25¾	24 2 0
ditto	80	11⅞	10 16 0	Berehaven	99	11	9 15 6
ditto	56	21⅜	19 15 6	Estrella	82	4¼	3 2 6
ditto	51	20	19 14 6	ditto	5	4⅜	3 18 0
ditto	16	70⅜	66 12 0	ditto	2	3¼	2 10 6
ditto	14	70	66 2 0	ditto	2	5¼	3 5 0
ditto	6	14⅝	13 2 0	Ballyvirgin	70	5⅜	4 12 0
Knockmahon	63	9¾	9 2 0	ditto	8	9⅞	7 18 6
ditto	62	9⅝	8 19 0	ditto	6	4¾	3 9 0
ditto	92	8⅞	8 3 6	ditto	5	6⅝	5 10 0
ditto	60	9	8 5 6	ditto	2	12	9 19 0
ditto	84	9⅝	8 18 0	Bahamas	50	12¾	10 16 0
ditto	79	9½	8 17 0	ditto	49	12⅞	10 14 0
ditto	72	9¾	8 12 6	San Blas	42	11⅝	10 18 6
ditto	70	9⅛	8 9 0	ditto	18	23	21 4 6
Springbok	51	30¾	28 15 6	Nassau	32	13¾	12 9 0
ditto	49	30	29 0 0	ditto	6	20½	19 16 6
ditto	48	30⅜	29 10 6	Spanish	42	6⅛	5 6 0
ditto	47	31½	30 6 0	Dyliffe	21	6¾	5 8 6

TOTAL PRODUCE.

Cobre	601	£8978 13 0	Ballyvirgin	91	£ 453 10 0
Knockmahon	582	5035 15 0	Bahamas	99	1064 6 0
Springbok	245	7314 14 0	San Blas	60	840 18 0
Wheal Maria	84	1986 8 0	Nassau	38	517 7 0
Berehaven	99	967 14 6	Spanish	42	222 12 0
Estrella	91	287 6 0	Dyliffe	21	113 18 6

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Copper Miners' Company	59½	£ 606 16 10
Freeman and Co.	115	980 3 0
P. Grenfell and Sons	243	3457 17 0
Sims, Willyams, Nevill, and Co.	176	5163 8 0
Vivian and Sons	276½	3239 6 4
Williams, Foster, and Co.	768½	7058 7 4
Mines Royal Company	122	1595 16 0
British and Foreign Copper Company	51	1005 19 6
Mason and Elkington	148	4305 14 6
F. Bankart	7	293 18 6
Charles Lambert	87	275 15 0
Total	2053	£27,783 2 0

Copper ores for sale at Swansea, May 11.—Cobre 93, 92, 91, 90, 89, 86, 67, 46, 45, 11, 10, 9—Huelva 90, 83, 87, 6—Algiers 53, 51, 47—Bahamas 61, 28, 3—Wheal Maria 38, 37, 8—Springbok 46, 22, 3—Namaqualand 15—Great Barrier 55, 8—Estrella 77, 2, 1—Bampfylde 21, 5, 2—Namaqua 20.—Total, 1598 tons.

AVERAGES OF LAST SALE.

	Produce.	Price.	Standard.
British	12⅛	£11 18 0	£116 11 0
Foreign	16⅝	16 4 0	110 17 6
Sale	16 7-16	£16 0 0	£111 1 0

Totals—British, 66; Foreign, 1415 = 1481 tons (21 cwts.)

COPPER ORES.

Sampled April 14, and sold at Tabb's Hotel, Redruth, April 29.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
United Mines	80	£3 1 0	South Caradon	45	£6 9 0
ditto	72	3 19 0	West Damsel	74	4 0 6
ditto	71	4 14 6	ditto	73	4 10 6
ditto	70	3 11 6	ditto	60	3 17 0
ditto	69	6 7 0	ditto	53	6 18 6
ditto	68	3 3 6	ditto	40	3 9 6
ditto	65	5 6 6	Tresavean	56	1 19 6
ditto	53	1 10 6	ditto	54	1 16 6
ditto	38	7 2 0	ditto	45	1 14 0
ditto	32	1 0 0	ditto	33	3 19 6
ditto	31	3 13 0	ditto	31	2 9 0
ditto	30	3 18 6	ditto	28	2 6 6
ditto	26	5 17 6	ditto	12	3 8 0
ditto	25	0 5 0	South Crinnis	62	3 7 6
ditto	11	8 3 0	ditto	46	8 2 6
ditto	10	2 6 0	ditto	38	7 8 0
Fowey Consols	97	6 2 6	ditto	24	14 15 0
ditto	93	5 17 6	Grambler & St. Aubyn	49	19 6 0
ditto	86	5 6 6	ditto	33	13 14 0
ditto	81	5 19 0	Tywarnhaile	46	3 4 0
ditto	80	7 0 6	ditto	28	4 12 0
ditto	42	6 4 0	ditto	4	9 12 6
Great Wheal Busy	90	2 9 0	East Tolgus	53	5 5 0
ditto	77	3 16 0	ditto	5	13 16 0
ditto	72	1 15 6	Wheal Comfort	25	1 9 0
ditto	69	1 16 6	ditto	12	1 6 0
ditto	63	1 16 6	Creegbrawse	35	4 14 0
ditto	59	2 2 6	Old Wheal Basset	27	7 5 6
South Caradon	68	9 12 6	Bawden's Ore	16	1 0 6
ditto	65	9 4 0	ditto	11	6 0 6
ditto	64	16 8 6	Respryn	10	8 14 0
ditto	57	6 13 6	ditto	2	3 3 6
ditto	56	5 19 0	Wheal Maudlin	2	3 16 6
ditto	46	5 3 6	Symons's Ore	1	25 2 6

TOTAL PRODUCE.

United Mines	751	£2999 9 6	East Tolgus	58	£ 347 5 0
Fowey Consols	479	2902 16 0	Wheal Comfort	37	51 17 0
Great Wheal Busy	430	1007 3 6	Creegbrawse	35	164 10 0
South Caradon	401	3545 13 6	Old Wheal Basset	27	196 8 6
West Damsel	300	1365 4 0	Bawden's Ore	27	82 13 6
Tresavean	259	598 13 6	Respryn	12	93 7 0
South Crinnis	170	1218 4 0	Wheal Maudlin	2	7 13 0
Gramb. & St. Aub.	82	1397 16 0	Symons's Ore	1	25 2 6
Tywarnhaile	78	314 10 0			

Average Standard ..... £126 11 0 | Average Produce 6¼

Average Price per ton £5 3 0

Quantity of Ore ..... 3149 tons | Quantity of Fine Copper, 197 tons 7 cwts.

Amount of Money £16,318 6 6

LAST SALE.—Average Standard ..... £130 0 0.—Average Produce 6⅛

Standard of corresponding sale last month, £135 18 0.—Produce, 6⅜.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal Company	169½	£ 838 17 9
Vivian and Sons	485½	2461 15 6
Freeman and Co.	285	1607 7 6
Grenfell and Sons	511	2105 12 6
Crown Copper Company	36	142 4 0
Sims, Willyams, Nevill, and Co.	419½	2629 11 9
Williams, Foster, and Co.	465	3128 1 3
Mason and Elkington	258	1329 9 0
F. Bankart	100	289 10 0
Copper Miners' Company	159	1178 3 3
C. Lambert	260½	607 14 0
Total	3149	£16,318 6 6

Copper Ores for sale on Thursday next, at Tyack's Hotel, Camborne.—Mines and Parcels.—South Wheal Frances 561—North Roskear 462—Wheal Clifford 430—South Tolgus 428—Wheal Basset 377—West Seton 355—Wheal Seton 272—Pembroke and East Crinnis 172—Copper Hill 141—Trevoole 90—North Crofty 84—Wheal Harriett 51—West Stray Park 43—Killifreth 38—Pedn-an-drea 15.—Total, 3519 tons.

Copper ores for sale on Thursday week, at Tabb's Hotel, Redruth.—Mines and Parcels.—West Basset 746—Wheal Buller 456—Alfred Consols 375—North Basset 291—Par Consols 286—Great Wheal Alfred 250—Levant 248—Tolvadden 247—Wheal Margery 216—Great South Tolgus 208—West Alfred Consols 133—Tretoil 105—Wheal Anna 85—Carrack-Dewa 85—Wheal Unity Consols 75—Rosewarne 68—Rosewarne Consols 64—South Crenver 53—West Fowey Consols 52—Clijah and Wentworth 41—Wheal Agar 40—Penberthy Crofts 38—St. Aubyn and Grylls 37—Boiling Well 34—Duke of Cornwall 30—North Wheal Unity 9—Halamanning 8—Trewecke's Ore 1.—Total, 4281 tons.

FOURTH SALE IN APRIL.

Years.	Tons.	Prod.	Amount.	Standard.	Ore copper.	Cake cop.
1849	2911	6⅜	£12,423 5 0	£112 3 0	£70 10 0	£83 10
1850	2246	6½	9,766 11 0	108 18 0	66 15 0	88 10
1851	2545	7¼	11,983 5 6	103 9 0	65 6 0	84 0
1852	2526	6⅜	11,748 9 0	108 3 0	73 0 0	84 10
1853	4297	5⅞	16,435 0 6	127 17 0	74 8 0	117 0
1854	3391	5¾	19,541 5 6	146 12 0	99 5 0	126 0
1855	3743	6⅛	23,048 18 6	146 4 0	101 1 0	126 0
1856	2913	5⅜	15,471 7 6	140 1 0	92 6 0	126 0
1857	3579	6½	24,375 15 0	146 10 0	104 7 0	135 0

The copper in the ore expresses the nett price per ton of copper paid to the miner.

THE PROGRESS OF MINING IN 1857,
BEING THE FOURTEENTH ANNUAL REVIEW.
By J. Y. WATSON, F.G.S., Author of the *Compendium of British Mining* (published in 1843), *Gleanings among Mines and Miners*, &c.

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Notices to Correspondents.

*** Much inconvenience having arisen, in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be regularly *filed* on receipt: it then forms an accumulating useful work of reference.

LAW OF JOINT-STOCK COMPANIES.—"L. M. C." (City).—There is no difficulty in forming a new company for effectually working the property of that in question, and such a course would probably prove beneficial to all concerned. A special meeting should be called, a voluntary winding-up decided upon, and a resolution passed for selling the property for 5000*l.* to the new company proposed to be formed, and for accepting paid-up shares for the amount. A new company must then be formed, with a capital of (say) 20,000*l.*, in shares of 1*l.* each, 5000 of which would be considered as paid-up and handed over to the liquidators of the existing company, and the remainder issued to the public. The old shareholders would be entitled to one share in the new company for every five shares they possessed in the old. Their worthless shares would be rendered valuable, as there would be ample capital for developing the property, and the old shareholders would be secured their proportionate amount of profit without liability for further calls. "L. M. C." will find full authority for the course proposed in the Joint-Stock Companies Act, 1857, sect. 17. It is, of course, understood that these remarks presume the new company to be registered with limited liability.

ANTWERP AND ROTTERDAM RAILWAY.—"J. L." (Bristol).—The meeting, in conformity with the statutes, will be held at Brussels, on Thursday next, and the dividend then formally declared. The day of payment will not be known until after the meeting.

ADELAIDE LAND AND GOLD COMPANY.—If, instead of writing to your Journal, and occupying space otherwise valuable, the shareholders would take the trouble to call at our offices, all the vouchers and documents relating to this company are open to inspection. We believe nine-tenths of the shareholders have availed themselves of the information at their command, and are as well acquainted with the position of the affairs of the company as the liquidators.—HANCOCK AND SHARP: 20, *Tokenhouse-yard*.

GRAND DUCHY OF BADEN MINING COMPANY.—"J. B." (Spondon).—The reason the report did not appear in the *Mining Journal* last week was simply because it was not received at the office. The reports arrive every fortnight, appear regularly in the Journal, and our correspondent will find it this week in another column.

BON ACCORD MINING COMPANY.—"J. H." (Sheffield).—The first annual meeting will be held on Friday next, and will be fully reported in the *Mining Journal* of Saturday. The shares are principally held by the adventurers in the Scottish Australian Investment Company.

EAST WHEAL RUSSELL.—"Investigator," attempting to support his statements by extracts from the late captain's reports, I find on reference takes just as much as will suit his own purpose, and no more. In Capt. Metherell's report, dated May 16, 1856, I find—"The lode in the 55 east is still looking well; the orey part is 1 ft. wide, good saving work. This end is looking very promising to be an orey one to the extent of the sett, and I believe the 66 fm. level and 77 (if driven) will prove to be better, and so on to the 100, *as we advance driving east*." I need scarcely to say how far Capt. Metherell was right in his statement respecting the 66 fm. level, also the 77. I would rather leave the end driving and sinking the winze to verify his opinion given two years ago, and, in spite of "Investigator's" insinuations, honestly and fearlessly, neither seeking to suit parties or purposes, but with only the general benefit of the adventurers at heart. Recrimination is not my object, or I might retort on your Plymouth correspondent of last week, who wishes to know what became of the ore that Captain Metherell only wanted a grinder to return, by asking what Capt. Goldsworthy did with the 130*l.* worth of tin (leaving a good back for stoping)? See report of Feb. 6, 1857, just three months after his fatal admission—"I have not seen one foot of well-defined lode throughout the whole mine."—A. B.

WELSH POTOSI COMPANY.—The information might probably be obtained from the solicitors, Messrs. Harrison, of Walbrook. We do not believe, however, that this would be accorded, as explanations on the subject have previously been avoided, and that in not the most courteous manner.

COPIAPO SMELTING COMPANY.—The superintendent and staff have not long since arrived at Caldera. It will take some time to erect the works, and although probably a public meeting may be held in the autumn of the present year, it would be unreasonable of the proprietary to expect any results from the operations which, if the greatest energy be used, can only then have been just commenced. The smelting works ought to be in full play for 12 months in order that a fair trial should be given to their capabilities.

CHANCELLORSVILLE FREEHOLD.—A few days since I met a shareholder largely interested in this company. The question he put to me was this:—"Do you ever think we shall get any gold out of it?" I was at a loss for a reply. I know no better medium of addressing the directors than through your instrumentality, and probably in your next we may be told when we shall get gold.—SCRIP.

EAST WHEAL GEORGE.—Surely the committee of this mine ought to publish some report of their proceedings. I remember many years since how this concern was ushered into public notice with a flourish of trumpets, and now for nearly two years we know nothing of it. If there is no money to be made out of the property, let it be wound-up before further liabilities are incurred; at least, then we might have something to divide from the proceeds of the machinery and materials.—H.: *Walbrook*.

ANGLO-CALIFORNIAN GOLD MINING COMPANY.—We held our last meeting in July, and it is now May, so that what Mr. Cottrell said would take one month in doing has occupied Mr. Goodman and his colleagues ten. I regret very much that the suggestion of myself and other independent shareholders was not taken some time since. Sir Henry Huntley and the directors should have had a bill in Chancery filed against them. As it is, one begins to imagine that the governing powers at home and abroad were merely *arcades ambo*.—P. P.: *Poole*.

"G. W." (Swindon).—The proper course would be to apply either to the contractors or to the Russian Consul General, who no doubt has the power of selection. In all probability, the Minister has no connection or influence, all matters of trade being generally under the control of the consular department.

WHEAL TALLACK.—It is with great satisfaction I have read the remarks in your last Journal. Here was a good mine sacrificed, owing to the intrigues of a clique who wished to force upon the shareholders a person who, whatever his talents might be, evidently had not the confidence of the majority of the proprietors. To that portion of the adventurers who have paid their calls, the present course is the best to be adopted, as we shall now be rid of the incumbrances which have hitherto retarded the progress of this improving property.—C.: *Bath*.

TYWARNHAILE MINE.—It must be a source of great satisfaction to Capt. Dale to find that the illiberal attack which was made upon him has met with that rebuff which such an invidious attempt deserved. It is to be hoped that the wandering minstrel who strung this and other similar lays will be more careful in future. He must remember the pitcher may go to the well so many times that at last it will be broken. Remember sixteen at Liskeard.—T. B.

TYWARNHAILE MINE.—I am glad to see that some respectable men are confuting the sad compliment passed on Captain Dale relative to this mine, in your Journal of April 17. The writer, I feel assured, must be possessed with prejudice, or sinister views. I have known Captain Dale 40 years, and must say he is of too sterling worth to deserve such unmerited reflections. Whoever place their property in Capt. Dale's hands are safe to any extent.—J. WEBB: *St. Austell*.——Captain Philip Hawke, of the Queen of Dart Mine, also testifies to the judgment and competency of Capt. John Dale, under whom he worked for many years.

MINERAL CHARCOAL.—In your last Journal I read a description of the old continental method of treating small coal to convert it into coke, and was surprised to find that you attributed the invention to Mr. Ebenezer Rogers, who, I am sure, will not thank you for making such an assertion, as it is placing him in an entirely false position. This is the second time this unfortunate accident has occurred to Mr. Rogers, and to him it must be very annoying. Some months since he read a paper upon a new coke oven which he had just succeeded in perfecting, yet an illustration of the very furnace is published in Ronald and Richardson's reprint of Knapp's *Technology*, and I am not sure that it did not appear in the original work, which appeared many years since; in the reprint it is referred to as an old invention. As to the mineral charcoal, he will find that the system is, and has long been, in general use on the Continent, and has generally given satisfaction, so that it is not wonderful that a single Welsh tin-plate manufacturer should find it applicable to his business. Mr. Rogers may, however, have introduced some vast improvement, which he has not sufficiently explained to make me comprehend the difference between the old and new systems. I shall anxiously look to your next Journal for Mr. Rogers's description of his improvements, which will be read with interest by all your readers connected with the iron or tin-plate trades.—C.

MINING SPECULATIONS.—In your last Journal, a remark is made that questions are asked "upon what basis the value of mining property is estimated?" The steady-going and dividend-paying mines are more or less valued according to their intrinsic worth—that is, the amount of ore laid open, machinery erected, and the respectability of the management. But if it be asked why the shares of new setts are sold and bought at high premiums, the reply is that it is the effect of mere *excitement*, and those who buy shares under such circumstances deserve to lose their money. Mining enterprises requiring constant reports to keep up the excitement, instead of reports on the system which ought to be pursued to ensure profitable results, should be avoided by the uninitiated.—EVAN HOPKINS: 15, *Clarendon-gardens, Maida-vale, W., April 29*.

BLAENAVON IRON COMPANY.—"W." (Oxford-street).—The annual meeting is appointed for May 13, and as our reporter is invariably refused admittance, on the ground that it is a private company, we shall feel obliged if favoured with the particulars from any shareholder in attendance.

GREAT WHEAL BUSY AND THE COST-BOOK SYSTEM.—I was highly pleased to see Mr. Ennor's remarks on the Cost-book System, and also his observations on Great Wheal Busy, in which I am a large holder. It caused the shareholders to bestir themselves and attend the meetings to look into the accounts; I, therefore, believe the mine is now placed on a fair basis for prosecution, and our prospects are known to be good; indeed it is even admitted to be the case by Mr. Ennor himself. Mr. Ennor's writings on the Cost-book System are very just. Shareholders have a right at general meetings to call on the manager and purser to produce all bills and vouchers to be scrutinised by them at such general meetings, which should bear their signatures to prove that they are genuine; all these vouchers should be receipted and entered in the accounts as paid, otherwise shareholders have no remedy against fraudulent managers or pursers for allowing debts to accumulate. But I find at most mine meetings I attend nearly all the shareholders are over anxious to bring the business to a close, and the vouchers are but seldom looked into or examined, and oftener not produced.—A FRIEND.

THE COMPANY OF COPPER MINERS IN ENGLAND.—Your correspondent, "A. B.," is quite correct in stating that the whole burden would fall upon the stockholders if the balance against the Church Fund were written off, as proposed. He also remarks, "Whatever has been done for the mental and moral improvement of the labouring classes must have been paid for by the workpeople themselves, or by the stockholders." "A. B." is quite correct again; the workpeople *do* and *have* paid for themselves. The fact is, the whole of the school and reading rooms are supported out of the fund raised by the stoppage of certain pence in the pound from all the money earned by each person employed; but it is a matter of great doubt as to whether the schools are now in the high state of perfection in which they were when the company took possession of the works. As regards the debt on the new church, the side aisles are not yet paved, and there may be no necessity to effect this, as nearly double the number of the usual congregation can be accommodated in the seats in the body of the building. Has not the balance owing been needlessly incurred by the erection of an edifice far too large for the English congregation, to whose use it is exclusively appropriated?—R. P.

CARDIGAN SOUTH BOG.—Can any of your readers give the name of the secretary, and where the offices of this company may be? Many brokers have received applications for shares, but no one seems to know anything of the mine.—J. R.: *City*.

"E. F." (Pallanza).—No letters have been received, or they would have been forwarded.

DESTRUCTION OF THE VICTORIA IRON-WORKS, WHITBY.—The destruction of these works has been caused by an occurrence common in the neighbourhood of Hinderwell. From time immemorial extensive land-slips, attended with destruction of property and danger to human life, have at intervals taken place along the line of coast on which these works were situated. Indeed, along the whole line of coast, extending from Peak to Skinningrove, these land-slips have been of such frequent occurrence, that it was with much astonishment the people here saw the works erected in such a dangerous position. Every engineer condemned the proceedings of the company, and warned the directors of the consequences which would follow. The furnaces and the engine-house were actually built on a portion of the clay which had originally slipped from the face of the cliff down to the shore. Behind the buildings a vast mass of rocks and *débris* was attempted to be kept back by a great wall, which was constantly giving way. To make the danger still greater, and to expedite the catastrophe, the heavy burden behind was increased by some thousands of tons of ironstone, limestone, clay, and rubbish, and the foundation of the buildings undermined by levels. The great wonder is that the works stood so long, and that a respectable English company should have been guilty of laying out such a large sum in such an extraordinary manner, without taking proper advice, and in opposition to the opinion of every man of sense and experience in the neighbourhood.—R. S.: *Whitby, April 27*.

The letter on "Defects of Paddle-wheel Propellors for High Speeds" has been received.

WHEAL EMMA.—Why did not "A Shareholder" (Plymouth) attend the meeting on Wednesday, and make the enquiries he wishes to do through our Journal? Such a course would not only have been "more justifiable," but better likely to succeed in eliciting the information.

LADY BERTHA.—From notices in your Journal for many weeks past, under the heading of "Mining Notability," this mine would appear to be in a very profitable state; but still I should like to be informed what would be the average tribute for the quantity raised, and whether there has been a profit, supposing the tributers were paid fair wages. A call is anticipated at the next meeting, which does not bear out the various statements.—OBSERVATEUR: *April 29*.

THE COST-BOOK SYSTEM, AND LIMITED LIABILITY ACT.—Mr. A. Ennor's letter is not a reply to "Lex," who has already told Mr. Ennor that he is not the person connected with the circumstances he alludes to; besides, they have no bearing on the question. The books and accounts of a limited liability company are more open for inspection than those of a cost-book company, for the former must be open to the public (on payment of 1s.) as well as the shareholders. If Mr. Ennor will adhere to the merits of the question, and not refer to irrelevant matters, of which "Lex" has no knowledge, we shall be happy to insert a communication from him. Let the subject be discussed as it should be, without personal allusions, which generally show weakness in a case.

EAST WHEAL RUSSELL.—I have one particular reason to assign for having great confidence in this mine. At first sight Mr. Nicholas Ennor condemns the geological appearances, and now a good discovery is made he is anxious for the credit of it. Two out of three of the mines which Mr. Ennor has condemned as valueless, even if properly explored, have proved good paying concerns; and now that East Russell has cut rich, Mr. Ennor good-naturedly takes the praise to himself. Why should he not? Who is so competent to form an opinion of mining property, or conduct the workings of a mine judiciously, as himself? Practical miners have often to complain of Mr. Ennor's distatorial style of writing, while the remarks of his son respecting Mr. Josiah Hitchins are equally to be condemned, that gentleman being justly held in equal repute in Devon to Mr. Charles Thomas in Cornwall.—JOHN SEYMOUR: *Rose Cottage, Lostwithiel*.

*** The great space occupied by Mr. Phillips's paper on the "Progress and Present State of British Mining" prevents the publication of several matters, among them letters on East Wheal Russell, Tywarnhaile, Great East Tamar, Lady Bertha, London Mining Exchange, &c.

THE MINING JOURNAL
Railway and Commercial Gazette.

LONDON, MAY 1, 1858.

It is curious to find that the cry of "protection to native industry" has been taken up by the French ironmasters, who are now actively engaged in protesting against the modifications in the import duties charged on foreign iron, proposed at the close of the war with Russia. The feeling by which they are instigated with regard to this proposition is remarkably analogous to that which we have ourselves had an opportunity of becoming acquainted with some years since, on the occasion of the agricultural protection agitation. There is probably as much justice and reason in the arguments of the French ironmasters as there was in those of the British agriculturists. There are also the same features of inconsiderate obstinacy, and organised resistance to the plans of the Government; the same influence exercised over a considerable population by reason of the great wealth of the discontents, and the dependence of that population upon them for daily support. Nor have threats been wanting, that if the views of the ironmasters are not conceded to, they will do all manner of violent and suicidal things—that they will stop their works, and throw their workpeople upon the State for support. How such a mode of procedure would benefit them, or relieve them from the anticipated evils of a reduced import duty on foreign iron, it is not easy to perceive, particularly as there is every probability that the ironmasters of England and Scotland will be not only able but willing to contribute towards saving France from being deprived of that useful commodity, and also that they will be able to do so not only as well but better than the French ironmasters.

Ever since the decree of October 7, 1855, reducing the rate of import duty on foreign iron, there has been a continuous though somewhat suppressed growl of dissatisfaction issuing from among the ironmasters of France, and towards the end of last month a petition was presented to the Emperor of the French, setting forth the disastrous condition of the French iron industry; that both wood and wages were at a high rate; that the ruin of the ironmasters would be complete if Government did not take conservative measures for them; and that the sole cause of all this state of things was the easy admission of foreign iron. This petition was presented by a deputation representing 130 ironmasters and the establishments of 38 departments; and it was argued as a ground for their appeal, that by restricting the consumption of iron to the native produce, and keeping up the high prices of which the ironmasters approve, the increased price of wood would be a profit to the soil, and the increased cost of labour a benefit to the inhabitants. These and similar arguments have been familiar here in England, and luckily have long since found their level. But this pathetic appeal seems to have had little influence, and it appears that as an alternative, and rather than endeavour to adapt their proceedings to the natural capabilities of the country, the French ironmasters have commenced suspending operations altogether. One of the most important establishments in the department of the Landes has discharged 500 workmen as a beginning, the reason being that he finds it impossible to dispose of his stock of wrought-iron.

But it may be reasonably asked, why is this the case? There is no necessity for using charcoal iron for making rails, and the natural application of a high-priced iron of good quality is the production of steel, as in the iron districts of Westphalia. Here is an ample field for the enterprise of French metallurgists. Moreover, it cannot be expected that the French public who make use of railways should pay at a higher rate for the accommodation they receive, for the purpose of keeping up the prices that are approved by the French ironmasters, when iron of at least quite equal quality for making rails, may be obtained from England at a less cost than they can produce it. This is so palpably absurd, that refutation of the notion is superfluous. Thus, since the decree above referred to was issued, the Tredegar Works are stated to have sent over to France for use in the construction of railways, a quantity of iron, upon which the duty, at the rate of 60 frs. per ton, would amount to 60,000*l.*! Why should this be abstracted from the pockets of the shareholders and travelling public? There is no reason that we can see which would be at all admissible.

The French ironmasters must be content to recognise the inevitable necessity of adapting their metallurgic operations to the natural capabilities of the country; and as they are inferior to the natural capabilities of Great Britain in the same respect, they must be content to hold a subordinate position as regards iron production, rather than persist in a vain attempt to do without the aid of foreign importation. Even in Belgium, where the natural capabilities of the country for the production of iron approach nearer to that high degree of completeness which prevails in the iron districts of Wales, Scotland, and the midland counties of England, and where there is also a protective import duty upon foreign iron, English iron of certain kinds is generally offered at a price less than similar iron can be produced for in the country itself. This is also the case in the Rhenish provinces of Prussia, and further north, at Berlin, and in Silesia even. These are facts that it will be well for the French ironmasters to consider attentively; and if their understanding and common sense is not entirely warped and incapacitated by the infectious influence of a party cry, there is sufficient in those facts to teach them the absurdity of their protectionist agitation.

The Government returns, with respect to the imports and exports of the precious metals, for the three months ending March 31 show a most satisfactory balance in favour of this country. This does not refer to the quarter of the year thus terminated as the result of the quarter only, but each of these three months have demonstrated that the excess of imports over exports was continuous. The aggregate total value of the imports during Jan., Feb., and March was no less than 10,251,293*l.*, while the exports during the same period give a total of only 5,305,122*l.*, so that the balance of trade, in respect of gold and silver bullion and specie, is 4,946,171*l.* in favour of Great Britain, consequently equivalent to nearly 18,000,000*l.* for the year. There is every reason to believe that the imports will continue to be in great excess of the exports, for there is no apparent demand of any kind springing up to turn the scale against us, or even to reduce the accumulation to any considerable extent; so that it is clear there will be no decrease of the present extraordinary abundance of money, and that unless some channel for its useful employment be opened, it will become a perfect drug in a commercial sense. Indeed, its present value is little more than 2 per cent. for loans on convertible securities, and if the influx of specie continues to go on as it has done since the commencement of the year, it requires no seer to determine the result—that legitimate enterprise of every description will find support; and as the development of the mining industry of this country, as well as our colonies, especially Australia, offer such encouragement for the investment of capital, there is no doubt but that a large proportion of this over-abundance of money will be brought into these channels.

This large amount of imports, during the quarter, consisted of 7,811,533*l.* in gold, and 2,439,760*l.* in silver; and as the exports of gold amounted to 2,551,061*l.*, and of silver to 2,754,061*l.*, there was an excess of imports of 5,260,472*l.* in gold, but an excess of exports over imports of 314,301*l.* in silver; although the general balance in favour of this country was, as stated, 4,946,171*l.* The excess of silver was the result of continued heavy remittances to India and China, on account of the war, the total under the head of "Egypt, in transit to India and China," being no less than 2,059,103*l.*, or within 694,958*l.* of the entire shipments of silver.

The imports came from sixteen different places, of which nine had interchange of exports of the same metal; six giving a balance in favour, and three against this country. From the remaining seven we were recipients of no less than 4,378,784*l.*; but we transmitted 264,037*l.* to four countries whence we obtained no specie in return, making the balance in this respect 4,114,747*l.* South America sent us 2,349,236*l.*, and Australia 1,801,484*l.*, being collectively 4,150,720*l.* out of the total imports from these seven places of 4,378,784*l.*

From the countries of interchange the largest benefit accrued to Great Britain from the United States. We received from thence 2,634,742*l.*, and transmitted only 11,099*l.*, so that the excess of imports over exports was 2,623,733*l.* Our next best correspondents in this particular were the Hanse Towns, who sent us 927,099*l.*, and received back only 341,946*l.* leaving consequently 585,159*l.* in our national coffers. Belgium left 135,873*l.* with us, having sent 276,173*l.*, and received back 140,300*l.* Portugal likewise furnished us with an excess of 114,170*l.*, the imports being 153,938*l.* from that country, and the exports to it 39,768*l.* Spain took 12,397*l.*, but forwarded 34,288*l.*, so that here we were gainers to the extent of 21,891*l.* "Other places" gave us 35,015*l.*, and required only 5098*l.*, the balance advantage being 29,917*l.* Of the places which drew more than they forwarded to us France stands first. We exported 2,165,297*l.* to our neighbours, but they returned only 1,263,344*l.*, so that there was 901,953*l.* against this country in transactions in the precious metals. It is true that the balance against us with Egypt was no less than 1,554,267*l.*, therefore much more than with France; but as this was almost wholly for India, it cannot be regarded in the same light as interchange with foreign nations. From Egypt, in fact, we received only 546,554*l.*, yet we transmitted 2,100,821*l.* The only other excess of exports over imports was with respect to Holland, to which country we sent 224,455*l.*, and obtained 1356*l.*, so that 223,099*l.* was against us.

In this week's Journal we publish a highly interesting paper, read before the Society of Arts, on Wednesday, by Mr. J. A. PHILLIPS, on the "Progress and Present State of British Mining," which comprises a brief history of mining from the earliest period to the present time, and in which the various improvements, from time to time, made in mining machinery, particular reference being made to Darlington's water-pressure engine, and an improved pump which has been successfully employed in connection therewith; to a modified arrangement of crushing-mill and dressing apparatus, adopted in a mine of which Messrs. PHILLIPS and DARLINGTON are the engineers; and to the round buddle. The historical and mechanical portion of the subject having been disposed of, he alluded to the desirability of mining as a channel for investment, and asserted that the profits derived from investment in good properties varied from 12 to 14 per cent.

An animated discussion followed the reading of the paper. Mr. SMART enquired whether any attempt had been made to enlarge the interior extremity of the bore-hole, so as to render the charge of powder more effective. He referred to an ingenious invention in which the use of a ball caused a most effectual enlargement. He thought that by the ordinary mode of boring a hole very similar to a gun-barrel was made, and could not believe but that a large amount of the power of the gunpowder was lost by the charge and tamping being blown out, as from a gun barrel. Mr. VARLEY could testify to the efficacy with which the machine, referred to by Mr. SMITH, did its work, and agreed with him that an enlarged extremity to the bore-hole must ensure a more powerful blast. Mr. PHILLIPS considered such an invention would not be of the utility supposed, owing to the many positions in which the bore-holes were made. Mr. VARLEY thought that, with very slight modification, those objections could be overcome. Mr. P. NINNIS did not consider there was any necessity for such enlargement of the hole, as, under the existing system, it was an extremely rare occurrence for a hole to blow out its tamping without doing the work intended, while the quantity of powder required by the proposed arrangement would be materially increased. Mr. TENNANT then disputed

Mr. PHILLIPS's assertion as to the profits derived from mining, but referred rather to mines under the management of unscrupulous persons, and to those worked only for the purposes of share jobbing, than to legitimate undertakings; and his arguments were refuted by Mr. NINNIS, who showed that by careful investment profits must result.

Mr. T. SOPWITH, who presided, in the course of his remarks upon the paper, mentioned the interesting fact that the idea of a Mining Record Office, the object of which has since been so successfully carried out through the indefatigable exertions of Mr. ROBERT HUNT, originated in his office at Newcastle-on-Tyne, 25 years ago.

Upon the question of educating miners coming under consideration, Mr. TENNANT, Dr. HYDE CLARKE, and Mr. NINNIS took part in the discussion. It was admitted that English miners were superior in all practical work to the miners of any other nation, but that their position would be greatly improved by their acquiring a larger amount of theoretical knowledge than they at present possess. Mr. TENNANT referred to an instance in which he told a German miner that he was not working the mineral he said he was, when the miner instantly proved that he was in error, by testing it before his blow-pipe, which he carried with him; on another occasion he made a similar remark to a Cornish miner, who could not fall back upon any such test. The importance of diffusing more theoretical knowledge among miners was such that all connected with mining should exert themselves to the utmost to carry out any proposition, the object of which was to increase the facilities for that useful class of men acquiring education.

MINERAL CHARCOAL, OR CHARRED COAL.

The account of this material, and of its applicability as a substitute for wood charcoal, cannot fail to excite the attention of all connected with the iron industry of this country, and interested in its progress. From the statements that were made at the recent meeting of the South Wales Institute of Engineers, it would appear that this fuel is free from sulphur, even though made from coal containing a considerable amount of that objectionable substance. The testimony of Mr. Banks and Mr. Thomas, that with this charred coal, tin-plates may be prepared as good as with wood charcoal, fully justify this conclusion.

The separation of the sulphur by means of the action of water upon the red-hot material, just as it is drawn from the furnace, is in all probability very much facilitated by the mechanical state of the charred mass. In the ordinary production of coke this mode of separating sulphur is had recourse to with good effect to some extent, but the compact character of the product is a great obstacle to complete desulphurisation in this way. The case would be different with the charred coal, every part of which would be brought in contact with the water, so as to allow of the reaction between it and the sulphuret of iron disseminated through the fuel taking place in every part of the mass. There is, therefore, good reason to expect that this method of producing fuel, suitable for certain operations connected with iron working, will be found to furnish important results. Hitherto it seems that the charred coal has been used only in the refining of iron for the production of tin-plates, but there is every probability that its use may be extended to other operations besides this, provided corresponding modifications in the mode of working are adopted.

The only obstacle to the production in this country of iron equal in quality to the best kinds of Swedish and similar iron, may safely be said to be the difficulty of obtaining fuel free from sulphur. Certainly there have been a number of plans proposed for effecting the desulphurisation of coal and coke, but most of them are too costly to be generally adopted. This problem still remains to be solved, and is probably of greater importance in its bearing upon the iron industry of this country than any other question connected with the same subject. For this reason it will be worth while to direct attention to a method that has quite recently been proposed for effecting this object, by a German manufacturer, Dr. Bleibtreu, of Bonn. This method is remarkable for its simplicity and cheapness, and if it should prove to be as efficacious in practice as it is correct in theory, the result will be as valuable for iron industry generally as the production of a substitute for wood charcoal will be for certain branches of iron industry in this country.

Dr. Bleibtreu's method consists in reducing the coal to a state of fine division, and then mixing it with powdered limestone, chalk, burnt lime, or other calcareous substance. The mixture is then coked in the manner usually adopted on the Continent for coking small coal, and the product, which is called "lime coke," may be employed for any ordinary metallurgical purposes. In this mode of preparing coke the pyrites of the coal will be decomposed in the same manner as in the ordinary coking operation—that is to say, one-half of the sulphur will be expelled in the gaseous state, and the other half will remain combined with the iron as proto-sulphuret. This is not decomposed by heat, and is the chief source of the difficulty of desulphurising fuel. While the decomposition of the pyrites is going on, the carbonate of lime is converted into quick lime, and this substance being intimately mixed with the fuel reacts upon the proto-sulphuret of iron in such a manner as to produce oxide of iron and sulphuret of calcium. This sulphuret of calcium is decomposed by water with evolution of sulphuretted hydrogen, so that by sprinkling the red-hot coke with water when it is drawn from the furnace a further quantity of sulphur is separated from it.

There is also another way in which advantage would probably be gained by using the "lime coke" in iron smelting. This consists in preventing the sulphuret of iron from entering into combination with, and contaminating the iron during its reduction from the ore in the blast-furnace. Under the system generally adopted of charging the ore and limestone alternately with coke, the contact between these two latter substances is not at all intimate. The consequence is, that the influence of the lime in preventing the sulphur of the coke being absorbed by the reduced iron is very much less than it otherwise would be. But, notwithstanding this difficulty, experience has shown that an increase in the proportion of limestone in the charge of a furnace worked with sulphury coke is attended with a reduction in the amount of sulphur in the metal produced.

The conditions prevailing in the upper parts of such a blast furnace may be represented thus. At one place a lump of reduced iron ore or spongy metal may happen to be in contact with coke only, and as the charge descends in the furnace and the coke is consumed, the proto-sulphuret it contains is gradually separated as a fixed residue in contact with the spongy iron. Owing to the fusibility of this sulphuret it melts long before the iron, and is consequently sucked up by the sponge, which, melting at a lower part of the furnace, thus becomes contaminated with sulphur. In addition to this, the ash of the coke also remains as the combustion proceeds, and as this ash is not readily fusible without the addition of some flux, "scaffolding" may be produced, which seriously disturbs the working of the furnace. On the contrary, supposing that the coke during its combustion is chiefly in direct contact with limestone, and not with the spongy iron produced by the action of the reducing gases upon the ore, the consequences will then be very different. As the carbon of the coke burns away, leaving its ash and the proto-sulphuret of iron in contact with the quick lime, chemical action takes place between it and both of the above substances. Acting the part of a flux to the ash of the coke it combines with it, producing a readily fusible slag, and thus counteracts the tendency to "scaffolding." Reacting with the proto-sulphuret of iron before this has an opportunity of coming in contact with the spongy iron, it gives rise to the production of sulphuret of calcium, which is dissolved by the slag resulting from the ash of the coke. By this means the contamination of the iron with sulphur is prevented, for as those portions of the charge where these changes have taken place sink down towards the zone of fusion, and the iron is melted as well as the other ingredients of the charge, the difference between the density of the metal and that of the slag at once determines their separation; and thus the contamination of the metal with sulphur cannot take place, because the condition of intimate contact between the metal and the sulphury slag, which is indispensable for the transfer of the sulphur to the iron, is thus rendered impossible.

But in the ordinary manner of charging blast furnaces, even when an increased proportion of limestone is used, the prevalence of one or other of the conditions above described is merely a matter of chance. Dr. Bleibtreu's method of preparing coke is, therefore, intended to reduce this chance to certainty, by adopting such arrangements as will admit of the protective influence of lime being exercised throughout the entire mass of the charge just at that time when it is capable of being most efficacious in producing the desired result. By the intimate admixture of the lime with coke it is enabled to seize upon the proto-sulphuret of iron and ash, the moment they are separated by the combustion of the carbon, and to render them harmless during the subsequent stages of the smelting operations.

The proportion of limestone to be mixed with the coal previous to its being coked will, of course, depend upon the amount of sulphur and of ash that it contains. This must be determined by analysis, and then, for each hundredth of sulphur, three hundredths of limestone should be added, and for the ash a quantity equal in weight to itself.

Dr. Bleibtreu is of opinion that the use of this prepared coke would also tend very materially towards reducing the amount of silicium and aluminium in the pig-iron obtained; for there is much reason to believe that those substances, so objectionable in the subsequent operation of converting pig-iron into malleable iron, are chiefly introduced into the metal while it is in a spongy state in contact with the infusible siliceous and aluminous ash of the fuel, under the influence of the powerful reducing conditions that prevail in the upper portion of a blast furnace.

Altogether, this method is one which is eminently deserving of attentive consideration and full trial, for, as we before remarked, it relates to one of the most important questions connected with iron smelting; and in simplicity, cheapness, and probability of success, it is very much in advance of anything of the kind that has yet been proposed.

MANUFACTURE OF CAST-STEEL.

It would seem from letters that have recently appeared in the *Mining Journal*, in reference to this subject, that Mr. Mushet now lays claim to priority of invention as regards the method of producing cast-steel for which a patent was granted to Capt. Uchatius. Thus Mr. Mushet says, in one of his letters, that, "except upon paper, nothing has been done with the Uchatius, or rather with my process." And last week, in reply to the very sensible and appropriate remarks of "R. C.," he says that he claims only to be able to manufacture excellent cast-steel from pig-iron direct by the atomic process. It may be presumed that this "atomic process," which, to say the least of it, has been distinguished by a very curious title, consists in melting pig-iron with some oxide of iron, sufficient to remove the superfluous carbon, and leave steel. It may be much doubted whether Mr. Mushet, or Capt. Uchatius, or any one else, could establish any exclusive right of property in this process. But over and above this, Mr. Mushet claims to be able to make steel in this way without damaging the melting-pots; to make first-class steel direct from the ore for 14*l.* per ton; and to manufacture the best cast-steel from any kind of bar-iron, scrap-iron, &c., for the mere cost of melting the materials, added to their prime cost. This seems an especial revelation to Mr. Mushet, for he adds that nobody else can do it. Of course, Mr. Mushet does not say how he produces this desirable result, and this plan shows considerable judgment, for a valuable invention is always better kept a secret than made the subject of a patent. Indeed, it would, perhaps, be more conducive to his interest if he were not to invite persons to inspect his operations, but to carry on those operations in a business manner, as Mr. Bessemer is about doing at Sheffield, and bring his product into the market. There can be no question that steel of the same character as that he sent to the office of the *Mining Journal*, offered at the price specified in Mr. Mushet's advertisement, would meet with a ready market, and that its introduction would speedily induce steelmakers to solicit the guidance and instruction of Mr. Mushet. Such a course might induce Messrs. Lenz and Uchatius, and even Mr. Thomas Brown, or the Ebbw Vale Company, to eat that "humble pie" which Mr. Mushet believes would be so wholesome for their moral digestion.

At any rate it must be admitted that Mr. Mushet is right in thinking it is a pity that the nation at large should be denied an abundance of cast-steel of the highest excellence at 11d. per lb., and be forced to pay four times as much, simply because capitalists do not know on which side their bread is buttered. Nor will it be any the less readily admitted that it is a pity Mr. Mushet does not endeavour to realise for himself such a golden prospect as a return of 100,000*l.* per annum, which he has so assiduously pressed upon the Ebbw Vale Company, and which they have so coyly declined to accept.

As was remarked in speaking last week of Mr. Bessemer's progress at Sheffield, this plan is almost essentially necessary in the case of any very remarkable invention; and there can be no doubt that it is at the same time the severest test and gives the most convincing proof of the real value of the invention. In Mr. Mushet's case, too, such a proceeding would not appear to be opposed by any very great difficulties; for, as he himself states, the cost of production by his method is remarkably small, and, as the value of the product would be considerable, the profits made by its sale would soon render it possible to extend the scale of operations.

We have already expressed our disinclination to prolong mere discussion about methods respecting which there is a difference of opinion as regards either their value or their invention; and in expressing our opinion as to the probability of Mr. Mushet being interested in that portion of Mr. Bessemer's patent which relates to the use of "any oxides or metallic substance" for improving or purifying iron when converting it into steel, we were influenced by a recollection that Mr. Mushet had claimed to have rendered Mr. Bessemer's method complete by an operation somewhat similar, as it appeared, to that mentioned in the specification then described. Beyond that mention of "any oxide or metallic substance," we were not aware that Mr. Bessemer had any intention of adopting Mr. Mushet's invention (No. 4), or that he had at all recognised it as complementary to his own. But if that mention of "any oxide or metallic substance" to be added to or mixed with the metal for the purpose of improving its quality, or of purifying or alloying it in making steel, may be interpreted in this sense, it would appear to be a circumstance that might reasonably be expected to interest Mr. Mushet particularly.

The regret which Mr. Mushet expresses in seeing patent heaped upon patent in the vain attempt to make a method answer by adopting various means that are calculated to have an opposite effect, we have too frequent reason cordially to share with him, and the fact of doing so will, perhaps, justify the suggestion that Mr. Mushet should temper his regret with that charitable consideration so necessary for patentees, and especially when he remembers how near he was himself being drawn into the vortex of patenteeism but a short time since. We have a vague recollection of a tradition, perhaps a myth, of six-and-thirty specifications ready to be discharged upon the public, like the Orsini bombs, with incalculable effects. But we were suggesting charity, and, therefore, will not pursue this subject further.

It is not very easy to perceive how France could become the great centre of steel manufacture, even if Mr. Mushet had laid his improvements before the Emperor Napoleon, and that potentate had turned out to possess greater powers of comprehension than Mr. Brown. The scarcity of fuel, and even of such iron ores as would be requisite for producing steel, as well as the duty upon imported pig-iron, would have been serious obstacles to such a result. Moreover, the Emperor Napoleon has just now enough to do to propitiate native ironmasters. We are glad, therefore, that Mr. Mushet did not rest his hopes upon so uncertain a foundation, but that he has, like Mr. Bessemer, resolved to set to work with his method, or methods, for the purpose of doing what he has so long maintained and argued, that he can do better than anyone else. We are confident that in this way the real invention or improvement may be most readily and effectually brought to general appreciation, and that in this case, whether the air method or the "atomic method," or whatever other method be adopted, it does not so much matter, provided the product is found to be good, and provided it can be produced so as to place other steel at a disadvantage in the market. The inventor, who is confident of his ability to effect this result, need not make up his mind that his invention will never benefit him, as Mr. M. says he has done, and we shall have great pleasure in learning that this opinion is supported by the results which we hope soon to hear of in connection with the undertaking that Mr. Mushet has entered upon, and in which we wish him all legitimate and reasonable success that he can himself desire.

MINING EDUCATION.—It is highly important that an adequate amount of instruction should be afforded to miners on the subject most necessary for the securing of their own safety, and it is generally considered that, by diffusing more practical and scientific knowledge to agents and workmen considerable advantages would be obtained; yet, with the exception of some few individuals, the entire mining public appear particularly apathetic, and in many cases they even seem to oppose anything which would tend to progress. An appeal is now made to the owners and managers of collieries to do their utmost to assist in the coming prize examination, to be held in connection with the BRISTOL MINING SCHOOL, by way of encouraging and inducing their under agents to compete for prizes and certificates. The pupils now pursuing a regular course of study in the several mining schools of the country will ere long be filling the places of mine agents, viewers, bailiffs, and engineers, with credit to themselves and benefit to their employers, and to the workmen over whom they may be placed. The superiority of these more educated men will undoubtedly be proved, and mining agents generally will evince a greater desire for scientific attainments than they now have. It is to be hoped that the mining public will then better appreciate mining schools and other institutions, where mining sciences may be studied by miners. Those practically engaged in the carrying out of mining schools declare that the pupils are not generally from the ranks of the workmen, but are for the most part sons of agents, overmen, and captains of mines—the miners must have the means of instruction taken to the locality in which they reside; and mining classes formed in schools already established, conducted by itinerant lecturers, appear to be the safest course to be adopted for educating the working miner. By this arrangement, it is anticipated that the masters of existing schools would in time obtain sufficient knowledge of mining subjects to enable them to take charge of the mining classes during the absence of the lecturer. The importance of extending the miner's scientific knowledge being admitted, the question is how the desired change can be accomplished, or rather (as educational schemes, like commercial undertakings, simply require sufficient capital to carry them out), how mining schools are to be supported? It seems that the fees charged to pupils is insufficient, Government cannot be expected to provide for local schools intended only to benefit a certain class, we must, therefore, look to the mine adventurer for the support; and we believe, if they will consider the benefit which they themselves must derive from having a superior class of workmen, they will surely render every assistance in their power.

THE MINING AND INDUSTRIAL INTERESTS OF CORNWALL.

[FROM OUR CORRESPONDENT IN WEST CORNWALL.]

APRIL 29.—A reduction has taken place in the price of fine copper, for which the smelters had been preparing by a gradual decline of the standard, which, at the ticketing last week, was only about 30s. higher than it was at the commencement of the year. The price of fine copper is now the same as it was in the begining of January, and as the standard is down nearly to the same point as it was then, it is reasonable to presume that no material fall of the standard will take place in consequence of the reduction this week in the price of fine copper.

With regard to the cause of the reduction in the price of fine copper, the very slow revival of trade, and the influx of foreign and colonial copper ores, must be taken into account. The Swansea sales show the increase that has taken place. In January there were sold at Swansea 2642 tons; in February only 995 tons; March, 2600 tons; whilst in April the sales have amounted to 4844 tons. Besides this increase, it is stated that considerable quantities of Australian ore and cake copper are on the passage; and the drop in the price of fine copper will now prove advantageous to the smelters. Their sales are not much, in consequence of the almost stagnant state of business; but the drop in fine copper, and the present low rate of the Cornish standard, will enable them to buy the foreign and Australian ores on their arrival very cheap. After that process has been accomplished, the price of fine copper will most probably go up, and the standard advance again.

It should be borne in mind, that the standard which we now regard as a low one was a few years ago considered to be high. Let us look back to the last 10 or 11 years—say to 1848, and compare the standard of last week with corresponding weeks of those years. In April, 1848, the standard was extremely depressed, being then 28*l.* lower than it was last week. In 1849, it was 15*l.* lower; in 1850, it was 21*l.* lower; in 1851, about 20*l.* lower; and in the corresponding week of 1852, the standard was 13*l.* lower than it was last week. In April, during these years, cake copper was only 88*l.* 10s. per ton; whilst we now look upon 107*l.* 10s. per ton (the present rate) as a low price, because we have been having such high prices as 126*l.*, and even 135*l.* per ton, with corresponding standards. Since 1852 we have had a period of better prices than we had previously, owing to the impulse given to the commerce and manufactures of the country, the construction of machinery, &c.; and as soon as the present lethargic condition of the trade is passed over, there can be no doubt that we shall have as good standards again as we have had since 1852. Even at the present time, with the existing standard, mining is in a better condition than it was previous to 1853, so far as the prices of ore are concerned.

Mining share business is dull, and generally depressed. Some of the progressive mines, however, are looking favourable, and any considerable improvement would at once stimulate purchases. It is remarkable that there have been no great improvements announced for a long time. West Seton continues to be a favourite dividend mine, and the price of shares is well maintained. Some of the adventurers are large holders, and are of a class who do not often come into the market. Wheal Basset shares are flat; the mine is doing well in stopes and pitches, but not discovering much ore; it is hoped there will be an improvement in this respect. West Basset is looking well at several points; the stopes and pitches are good, and the ends producing about 15 tons. per fm. East Basset is looking favourable, the 60 east being worth 50*l.* per fm.; the expenditure is also increasing. At Copper Hill a call of 5*l.* per share has been made. Condurrow is stated to be looking rather better. Grambler and St. Aubyn continues to look very promising for a good mine. Great South Tolgus has a lode in the 70 worth at least 40*l.* per fm. Alfred Consols is looking somewhat better in the 120. Great Alfred is improving, and will be in a position to increase samplings. Wheal Providence shares are about 63*l.* Wheal Lewis is worked in a spirited way, and the prospects are encouraging. Pendeen is looking favourable, and at the next level is likely to be a productive mine. Rosewarne Consols has a very promising lode in the shaft, and at other points there are indications which show the mine is worthy of vigorous prosecution. Great Wheal Busy is stated to be looking better in the 98.

It is reported that Mr. Michael Williams, one of the Members for West Cornwall, is recovering from his illness. The other Member, Mr. Richard Davy, is in London, attending to his parliamentary duties.

Considerable discussion has been going on in the local papers about harbours of refuge; the north coast of Cornwall especially, it is contended, should have a harbour of refuge, it being a rough, stormy coast, and very destructive to shipping. The mackerel fishery has commenced on the coasts of the county with moderate success; and new potatoes, raised in the Scilly Islands, have already been forwarded to the London market. Considerable profit is derived from this branch of trade during the season.

THE IRON AND METAL TRADES OF STAFFORDSHIRE.

[FROM OUR CORRESPONDENT AT WOLVERHAMPTON.]

APRIL 28.—Dulness prevails, without any perceptible improvement, both in the Iron and General Hardware trades of this county. Neither in the home, American, or continental demand does there at present appear any decided symptoms of revival. Pauperism does not increase to the extent that might be expected, but the poor are suffering greatly. The falling off in the quantity of flour sold by the millers is very large—a sad illustration of the effects of this terrible period of depression on the poorer classes. The reduction in copper announced on Saturday is a natural result of its diminished consumption.

The Board of Trade returns to March 31 afford striking confirmation of all that has been said as to the extent of the falling off in the foreign demand for the production of this county. Whilst the whole exports of the country fell 3 per cent. in March last, as compared with 1857, the falling off in iron was fully 38 per cent.; in hardwares and cutlery upwards of 21 per cent.; and in earthenware, which is produced very largely in the north of this county, the export was 37 per cent. below that of last year. This great decline, although partially due to the diminished demand from the Continent, Australia, &c., was mainly owing to the less exports to the United States and British North America. To the former country the iron exported was 80, the hardwares 54, and earthenware 61 per cent. less for March this year than last. To British North America the falling off was for iron 44, hardwares 60, and earthenware 70 per cent. These returns, however, present one or two gratifying features. The falling off for the month, large as it was, is somewhat less than during the preceding months, the tide appearing to have slightly turned. Then again, the great manufacture of the country—the cotton manufacture—shows a slight increase for the month; and although this is almost entirely owing to the great exports to the East Indies, and consists with a considerable reduction in respect to Turkey, the United States, British North America, Brazil, Australia, and other countries, it affords an indication, which the reports from Lancashire confirm, that this great element of our manufactures is steadily improving, and others may reasonably be expected, as they usually have done, to follow in its wake. The advices from London are rather more hopeful, and while no one expects a rapid improvement, a general impression prevails that a sensible change for the better will be experienced after Midsummer.

Informations for violation of the Truck Act continue. Fifteen against the Messrs. Groucutt, ironmasters, &c., of Coseley, and their buttties, fixed for hearing on Wednesday last, were withdrawn by consent. They were brought by a well-known informer, and a portion of the arrangement was the presentation of 5*l.* to the Ragged School. It of course did not appear for what personal "consideration" the informer had been induced to withdraw the cases.

A decision of considerable importance in relation to the employment of workmen was given last week at the Hanley County Court, by the judge, Mr. Temple, in the case of an action brought by John Riley, a labourer in the employ of the Earl of Granville, at his Shelton blast-furnaces, against John Alcock, overlooker at the furnaces, to recover 1*l.* 12s. 8d., a fortnight's wages due, as the plaintiff contended, on account of his having been dismissed without notice. On Saturday night, Feb. 27, Riley was told to be at work on the following (Sunday) morning, but getting tipsy he did not return until Monday, when the defendant told him to go back, which he understood as a dismissal. The Judge ruled that under an Act of Parliament it was not legal to work on the Sabbath; and, therefore, the plaintiff had not forfeited his agreement by not working on that day, and was consequently entitled to the usual notice. His Honour, therefore, gave judgment for the plaintiff for the amount claimed, with costs, in doing so expressing his regret that the question had been raised, as it might lead to much inconvenience. Probably it will lead to less inconvenience than the judge supposed. The relation of master and servant depends to a very slight extent for its maintenance upon legal penalties, but no doubt should the ruling be maintained some inconvenience may result in certain cases; at any rate it would in times of dispute give men who are required to work on Sunday an easy opportunity of terminating their engagements. It may be observed that the practice of working blast-furnaces on Sundays has been greatly diminished within late years in South Staffordshire.

The miners appear desirous of organising themselves more fully, and meetings for that purpose have been held at Dudley and Oldbury; one at the latter place, on Monday, being attended by some four hundred men. They are establishing benefit clubs for relief in case of sickness or accidents. They would do well, in reference to this matter, to obtain good advice with respect to the adjustment of payments to and out of the club, or they will be pretty sure to founder on the rock which has proved fatal to so many similar societies. The Dudley colliers have succeeded in securing the services of Mr. L. Brough, the Government Inspector of Coal Mines, to deliver them a lecture on mining;

and his scientific knowledge, extensive practical experience, and good common sense, will doubtless render the lecture a very valuable one. No Government appointment could be more satisfactory than that of Mr. Brough. He is most zealous in the discharge of his duties, unflinching in enforcing the Act which it is his duty to carry out in all cases where he feels it necessary, and it appears practicable to give effect to it, whilst at the same time he succeeds in maintaining friendly relations with the mine proprietors, which enables him to effect far more good than if he were in open hostility to them. It is only by such a spirit being shown that a colliery inspector can effect any great practical good, and South Staffordshire is particularly fortunate in possessing such an inspector.

The Birmingham Chamber of Commerce is promoting a measure of great importance, to compel all marine-store dealers to be registered, and to subject them to provisions calculated to check the immense amount of robbery which goes on in this and similar districts, by boys and men carrying away metals, which they find it easy to dispose of to such persons. The evil calls loudly for a remedy, as well in the interest of public morality as in that of the manufacturers of metal and metal goods.

Three men, employed at the Goscote Colliery, worked by Mr. Stubbs, were sentenced to seven days' imprisonment for having left their employment without giving due notice. The defendants applied to have the case remanded until the Government Inspector could be in attendance, but the application was not granted. The doggy admitted that the pit was rather "dampy," and one of the defendants stated that they were not the only men who refused to work in the pit, and that one man was now under medical treatment from the effects of working in it, and of the 25 or 26 men employed not one would go down on the day in question. It scarcely seems justice to punish men for refusing to risk their lives to suit the whim of a butty, or to compensate for the negligence of a colliery owner to provide adequate ventilation: such cases as these should be looked into by the Government Inspector.

Messrs. Wright and Son, of Saltley, have just completed a very elegant saloon carriage for the Viceroy of Egypt; it is 21 ft. in length, 8 ft. 3 in. wide, and the body is 7 ft. high. The interior of the saloon is fitted in most luxurious Oriental style, and every effort has been made to ensure comfort. The whole has been designed by and carried out under the superintendence of Mr. W. Creke, and reflects the greatest credit upon him.

REPORT FROM YORKSHIRE, DERBYSHIRE, AND LANCASHIRE.

[FROM OUR CORRESPONDENT IN CHESTERFIELD.]

APRIL 29.—We have had a thoroughly dull week, speaking of the mineral interests generally, though there are abundant indications of an improvement in the iron trade. We must, however, be content to wait till the manufacturing industry begins to move more actively before we can expect much greater improvement in the iron trade. There are an increased number of orders given out for rail iron, but in other descriptions the demand is about the same. The American orders are but limited.

The Coal Trade is dull, and there are no indications of an immediate improvement, owing principally to the depressed state of the cotton and woollen trades.

There has been nothing during this week affecting the lead mining interest in Derbyshire to call for remark. Mining shares have been exceedingly dull, and there have been no sales either at Sheffield or Chesterfield, except Cowden Rake which are enquired for.

An adjourned inquest was held at Clay Cross on Wednesday, before Mr. Busby, the coroner, touching the death of Valentine Shaw, a miner, who was killed by a fall of bind. George Morton was working in the pit about a yard from the deceased, who was beside a prop set up within a foot of the face of the coal. The bind broke off from the side of the prop, and fell on the deceased and killed him. There was no blame attached to any one. The jury returned a verdict of "Accidental Death." Mr. Hedley, the Government Inspector of Mines, was present.

Another fatal accident happened on Tuesday at the works of Messrs. Rotherham, Dronfield. T. Barker was employed at a grindstone, when the stone broke and the pieces struck him on the head and killed him. A verdict of "Accidental Death" was returned.

For the last few days a number of men have been employed in putting in pumps at the East Gawber Colliery, for the purpose of getting out the large body of water which has caused a stoppage of the works. The pit, it appears, got roofed with water, in consequence of the clack belonging to the bottom lift getting out of order, and by the water getting up above the clack door before the same could be made right.

REPORT FROM NORTHUMBERLAND AND DURHAM.

APRIL 29.—The Coal Trade must still be reported dull. Those collieries that are working nearly full time are engaged in coke making, the demand for which being somewhat steady; some also which work gas coal under contract are working nearly full time.

A branch railway connecting the Choppington Colliery with the Blyth and Tyne line, was opened a few days ago, so that new feeders are opening, which will increase the traffic on this short but promising and busy line, and also serve to swell the aggregate shipments of coal, &c., on the Tyne.

The sinking of the Ryhope pit from the bottom of the sand to the Hutton seam is advertised to be let. It is not expected there will be much difficulty in this part of the work, as very little water is met with generally after passing the sand, and this great undertaking may now be expected to proceed rapidly to completion. A large tract of valuable coal will be "won" when the Hutton seam is reached.

A fatal accident occurred last week at the Black Boy Colliery, near Bishop Auckland, by which a wasteman, named J. Short, was killed. He was in the old workings, engaged in building a wall, and was warned by a boy that the roof above him was in a dangerous state, but he did not notice this, and shortly afterwards a quantity of stones fell on him, and two hours elapsed before he could be extricated from his perilous position. He received injuries which caused his death the same evening.

The alarming disturbances in the neighbourhood of the extensive collieries and ironworks at Consett have been quelled by the military and strong bodies of police. The business at the ironworks, &c., has been partially resumed, and it is expected that the district will soon resume its usual appearance. Three of the principal rioters were examined before the magistrates this week, and committed to Durham Jail, to take their trial at the summer assizes. Thirty-three others were taken into custody, but have been liberated on bail. It is certainly disgraceful that the trade of such an important district should be so disturbed by such scenes. When our miners, puddlers and other factory labourers learn to be careful of their hard-won earnings, and abandon the public-house, with its degrading and demoralising influences, those occurrences will not be heard of. There can be little doubt that this alarming outbreak had its origin in those drinking bouts regularly indulged in at the fortnightly pays.

It will be remembered that five months ago a local disaster occurred here, which it is scarcely necessary to remark has exercised a very injurious effect on trade and commerce—the failure of the district bank. Still so difficult has been the process of arriving at a knowledge of the true state of its affairs, that the public really had no correct idea respecting them until the publication of Mr. Coleman's report, a few days ago. But now that the real state of affairs are, after much procrastination, arrived at, the question appears to be—what can be done to mitigate its consequences? We must notice that the report of Mr. Coleman shows a deficiency of 1,191,118*l.*, but this is irrespective of the value of the Consett Ironworks, and the debt and liability of those ironworks reach the enormous sum of 947,222*l.*, nearly one million. In estimating, therefore, the demands that must be made upon the shareholders, or the prospects of the creditors of the bank, the question which presents itself is—what is the value of the Consett Ironworks?

With respect to the supply of coal, it certainly must be considered that they are favourably placed, and with respect to ironstone, the working of it in the immediate neighbourhood has been relinquished for some time; but an abundant supply of it is derived from near Redcar, Yorkshire, which is certainly at a distance not very unfavourable. It is the opinion of many that under judicious management great advantages ought to be derived by the shareholders from those works; at any rate, it appears to be a subject well deserving their most careful consideration.

ENGLAND TO CHINA IN SIXTEEN DAYS.

A project, by which this desirable object is to be attained, and which is, moreover, calculated to render immense service to one of our most important dependencies, is nearly, if not completely, matured—an Atlanto-Pacific Railway through Canada; and it is to be hoped that it will, when brought forward, receive every encouragement from the British public. The idea of uniting the Atlantic and the Pacific by a railway near the lakes is not new; but the plan which now engages the attention of the Canadians is for a railway entirely through British territory, in connection with the Grand Trunk, and St. Andrew's and Quebec lines—a plan which we believe has not hitherto received serious consideration. Petitions on the subject have been prepared and presented to the Canadian, New Brunswick, and Imperial Legislatures; and as only 200 miles of railway has to be made between Riviere du Loup and Woodstock, it is proposed that the provinces of Canada and New Brunswick should undertake the completion of that link without asking any aid from the Imperial Government or local legislatures.

The Grand Trunk Railway of Canada has its terminus at Sarnia, but to confine the projected line entirely to British territory it will diverge therefrom at Belleville, and run north-westerly past Lake Superior, until it reaches the boundary between the United States and the territories of the Hudson Bay Company; this boundary line will then be followed to the shores of the strait which separates Vancouver's Island from the mainland. It is calculated that the cost of construction will be under 50,000*l.* per annum until completed; and all that is asked with reference to the financial portion of the scheme, is a guarantee from the Imperial Government of a minimum of 6 per cent., and the grant of the land required, which is only what was done by the United States Government in the case of the Illinois Railway, which was certainly not of more importance to the people of the United States than the Canadian Atlanto-Pacific line would be to the British.

The influence which such a line would have upon mining can scarcely be estimated, as a ready means of communication would be opened up between the rich copper district of Lake Superior and Swansea; and great facilities would be afforded for the profitable development of the general mineral wealth both of Canada and Vancouver's Island. Immense encouragement would likewise be offered for the colonisation of the beautiful valley situated between, and watered by, the chain of lakes which connect Lake Superior and Lake Winnipeg; and also of the valley of the Red River, which is spoken of in the most favourable terms. The climate is well adapted for agricultural purposes, the summer milder than at Toronto, and clay and limestone abundant, so that there will be no obstacle to building. Not less fertile is the Valley of Saskatchewan, where the railway will pass over the broadest part of the most extensive coal field in all the British dominions. In approaching its western termination, opposite Vancouver's Island, it will traverse the most eligible portion of the Hudson's Bay Company's territories, west of the Rocky Mountains, coal being found along the coast, and gold in Thompson's river, while the fertility of the whole district is, at least, equal to that of Vancouver's Island. Perhaps no existing company will reap more advantage from the carrying out of this project than the Grand Trunk Company, as by the arrangements above referred to the whole of the traffic over the Atlanto-Pacific line will pass over the Grand Trunk, so that the shareholders in that undertaking should exert themselves in every possible way to assist the carrying out of the projected line, when the 11½ per cent. promised them in the prospectus will, no doubt, be forthcoming.

BOYDELL'S TRACTION ENGINE.

The report of Col. Sir Frederick Abbott to the East India Company on the capabilities of Boydell's traction engine, on the motion of Mr. Garnett ordered to be laid on the table of the House of Commons, states that, in company with Sir Proby Cantley, Col. Abbott attended one meeting of the Ordnance Select Committee, and one full trial of Boydell's traction engine. The engine experimented with is one which, when working under a steam pressure of 120 lbs. per inch, is calculated at 37-horse power. Having been constructed for agricultural purposes, and in the most economical manner, it drives only one wheel (the off wheel). At the Royal Arsenal, it took in tow four guns, two mounted on ordinary and two on "devil" carriages, the whole load being estimated at about 43 tons; this load it drew at the rate of about 3 miles per hour on level ground, and at about 2¼ miles up a steep hill, part of which was inclined 1 in 13. Its power of draught was very great, but owing to its driving only one wheel it was unmanageable with a load, as it could scarcely be turned to the right hand. The reports which he had seen with the select committee, inspired him with the greatest confidence in its final success when the machinery is perfected to work both wheels together, or either wheel singly. An engine so constructed, and equipped with a train of carts of a peculiar though simple form, would be able to traverse any country where an ordinary bullock cart could travel, and being able to move continuously at the rate of 3½ to 4 miles per hour, would perform journeys of little less than 100 miles in 24 hours. An establishment of such engines and carts would *enable Government to dispense with half the ordinary military force in India*, seeing that troops could then be concentrated in one-fifth the time required by even forced marches. Such self-acting railways, though immeasurably inferior in speed to fixed railways, will be more generally useful for military purposes, as they will travel in any direction, and will be safe from the designs of enemies. Mr. Boydell proposed to complete for the Hon. East India Company a smaller engine, with a train of carriages to carry 120 men, at the cost of 680*l.* Col. Abbott thus concludes his report:—"I feel no hesitation in recommending the Court of Directors to accept the offer, with the proviso that the engine and train shall be found to travel with ease and safety in ordinary roads and lanes. If successful, it will mightily aid in the economical tenure of our eastern empire."

A powerful engine has been made for the East India Coal Company, for the purpose of conveying the coal from their mines to the nearest railway station. Another, ordered for Russia, has been sent to Odessa, and varies in some particulars from those hitherto constructed. In the first place, it moves on three wheels, the weight of the boiler resting on two wheels of immense strength, the third being the steering or guiding wheel, placed at the front.

A company was projected in 1857, but the monetary crisis which commenced about that period induced the promoters temporarily to suspend operations for that purpose, and the delay has afforded time and opportunity more fully to develope the extraordinary capabilities and value of the invention, orders having been given for Australia, India, Russia, the Cape of Good Hope, Cuba, South America, and West India, for engines and wheels for the transport of merchandise, minerals, &c., on common roads, or where no roads exist. For agricultural operations the experiments have proved most satisfactory, inasmuch as land ploughed at different places, in the presence of a very large number of practical agriculturists, has been pronounced by them to have been better done than by horses, while the saving of cost has been variously estimated from 40 to 70 per cent., according to the description of the work done, and possessing this great advantage, that in ploughing on soft or wet ground the endless railway and engine do infinitely less harm to the land than the horses' feet in drawing the ploughs.

The company is formed under the Limited Liability Act, with a capital of 40,000*l.*, in 4000 shares of 10*l.* each, which is considered ample, as arrangements have been made by which the company are not their own manufacturers. The directors include gentlemen well known in the scientific and commercial world, and the many advantages offered, in addition to the fact of the invention being in full practical operation, will no doubt cause it to become a popular speculation.

STRENGTH OF WIRE-ROPES.—A series of experiments have been made at Woolwich Dockyard, to test the comparative strength of the wire-ropes manufactured by Messrs. Binks and Stephenson, of Millwall, under a new patent, and those made under their old one. The new ropes were made of the patent wire invented and manufactured by Messrs. Webster and Horsfall, which is unquestionably the most remarkable yet produced, the weight which a very small sized wire will bear being almost incredible. It is considered that it would be applicable to pit ropes generally, as it would save a great amount of engine power, and also for suspension bridges, &c. It was under consideration to employ it for the Atlantic cable, but the expense and the time which would then have been required to make the necessary quantity of wire deterred the directors of the company from adopting it. Messrs. Webster and Horsfall have, however, recently made such improvements in their manufacture as enable them to sell the wire at a price which renders it as inexpensive to use as the ordinary rope wire. From the subjoined statement of the results obtained at the Dockyard, it will be seen that both the inventors of the wire and the manufacturers of the rope have good reason to be satisfied, as the weight borne previous to the ropes breaking was really enormous:—

BREAKING STRAIN UNDER OLD PATENT.			BREAKING STRAIN UNDER NEW PATENT.		
Circum.	Tons	cwts.	Circum.	Tons	cwts.
1½ inch rope	2	5	1½ inch rope	4	19
1¾ " "	3	5	1¾ " "	6	15
2 " "	4	6	2 " "	9	10
2¼ " "	6	7	2¼ " "	13	0
2½ " "	7	8	2½ " "	16	4
2¾ " "	8	11	2¾ " "	18	15
3 " "	11	14	3 " "	25	13
3¼ " "	13	10	3¼ " "	29	12
3½ " "	15	6	3½ " "	33	11
3¾ " "	17	6	3¾ " "	37	18
4 " "	19	6	4 " "	42	6
4¼ " "	21	17	4¼ " "	47	17
4½ " "	24	8	4½ " "	53	8
4¾ " "	28	6	4¾ " "	61	19
5 " "	32	5	5 " "	70	12

STEAM AND COAL—(*From a Correspondent*).—The Welsh coal masters are beginning to feel that unless they bestir themselves their trade in steam coal will be materially affected; they find that it is not always safe to rely upon the superior quality of an article maintaining it in a favourable position in the market, as different persons entertain different opinions as to the quality of the same article. The Newcastle men have shown by a series of scientific experiment that their coal is preferable to Welsh coal, and the Welshmen are so confident of their produce, that they offer to submit it to the practical test referred to in the *Mining Journal* of April 17, of running the same vessel, with the same boilers, the same journey, with the two descriptions of coal, and have no doubt that the Welsh coal will prove itself superior. If the Welsh coalmasters have really so excellent an opinion of their coal (and we cannot see why they should not have), they should take immediate steps to put the challenge in a tangible form, the readiest way of doing which would be to appoint a committee for conducting the necessary arrangements, and we cannot but think the South Wales Institute of Engineers would be well able to render every assistance required, whilst the subject is one which is worthy of their attention. It should first be ascertained which is the best coal; as the Newcastle men would, no doubt, bring their best to compete with it; all else will be simple enough. As the matter at present stands, the Newcastle men have no reason to accept the challenge, and they, therefore, occupy a better position than the Welshmen, since the inference is that the Newcastle men have shown the superiority of their coal, and would, therefore, accept the challenge, if fairly put forth. This is a position which the Welshmen never intended; we, therefore, hope immediately to have to announce that the South Wales Institue of Engineers have undertaken the task of proving the superiority of Welsh coal; and they may rest assured that the Newcastle men will be too jealous of their own interest to allow any challenge to pass unheeded, as they well know that such a course would irreparably damage the reputation of Newcastle coal.

Original Correspondence.

ENGLISH MINING, AND ENGLISH MINERS.

SIR,—In the course of the discussion on Mr. J. A. Phillips's most interesting paper, read at the Society of Arts on Wednesday evening, some observations were made reflecting on the character of English mining and English miners, which seem to me to have been most unjust and uncalled for, and on which I request your permission to offer a few remarks.

In the first place, Professor Tennant thought proper to take exception to the correctness of Mr. Phillips's statement, that mines, when judiciously selected and honestly conducted, afford a high rate of profit on the capital invested. He denies or doubts this, and, in support of his view, cited the cases of himself and his friends, who had invariably lost money by mining. If Professor Tennant did not occupy a good position as a mineralogist such observations would really not be worth noticing; but as the Professor is well known to the public, and is at the present moment engaged in delivering a course of lectures on geology in its bearing on mining, it may be worth while to point out the fallacy of his reasoning, which unnoticed or uncontradicted might have some weight with the public.

No miner denies—and certainly Mr. Phillips will not deny—that mining is most unfortunately selected by certain parties as a medium of administering to the gambling propensities of the British public. The race of "projectors" who gain their living, such as it is, by pandering to this appetite, which unfortunately exists more widely than would generally be supposed, are quite indifferent as to the medium they use. They have seized in turn upon our most important institutions—our banks, our insurance offices, and our railways, and have consequently temporarily loaded each of these with discredit. Mining, however, in some respects from its very nature, but more generally from the gross ignorance prevailing on the subject, is unhappily their favourite prey. But these persons are not miners; nor are even the parties whom they commonly set up as captains and managers; and consequently we miners, who work our mines for the purpose of raising and selling our ores to a profit, and not for the mere purpose of selling shares at one hundred times their value, repudiate these men and their whole connection. It may seem hard to say so, but we have really little sympathy even with their victims, for we remember that these victims are but gamblers, and have only met the invariable fate of gamblers. A large body of the mining disasters and losses belong to this class; they are not miners at all in the proper sense of the word, and their prospectuses, reports, meetings, and "deputations," only give rise to laughter and disgust among the real mining community.

In candour, however, we miners must also admit that there is a large class of mineral miners—whose conduct we are very far from approving. Shares are worked up far beyond their value; mines are worked extravagantly, and for particular objects; and great losses are incurred, and great discredit accrues to mining. This class, however, is very different from the last referred to; it is mining—although speculative mining—and not swindling. If there are great losses there are great prizes, and probably, as a whole, there is as much profit as loss. This class of mining is popular, and always will be so; and although it is such as prudent men will avoid, it is not without its legitimate uses. This, however, is not the class of mining to which Mr. Phillips referred. Mining can be conducted with such care and prudence as to reduce to a minimum the possible loss, still leaving the great chances of profit which no other pursuit can possibly afford. That mining so conducted is profitable, and largely profitable, I can clearly prove. Mines are thus conducted by many well-known respectable firms and individuals in this country, and the great fortunes and high positions gained by these parties are the best proof of my statement. But even this class of mining is subject to risks—which were very appropriately compared by Mr. Nimis to the risks of ships at sea. A prudent investor in mines, like a prudent underwriter, will divide his risk; not among every worthless scheme, or every worthless craft, that is proposed to him, but after due selection. If Prof. Tennant and his friends went into the City and insured indiscriminately every ship offered, does he doubt that designing men would take advantage of their ignorance, and that in every case the result would be ruinous loss; and that if a periodical supply of victims present themselves, the system would not be organised into a regular trade of plunder? Such would evidently be the case, and if the Professor cried out against underwriting, I fear the reply he would receive from Lloyds' subscribers would be anything but complimentary.

Prof. Tennant also made some disparaging comparisons between English and foreign miners; in reply to which, however, our countrymen were ably vindicated by Mr. Phillips and Mr. Nimis. I should offer some remarks on this point, but I fear I have already trespassed too much on your space.

It may perhaps be scarcely worth while to refer to the gross observations made by a Mr. Scott. This gentleman had the impertinence to state that among the whole class of mining engineers and managers there was only one who ever tried to be honest, and this one was Mr. Jehu Hitchins. Mr. Scott is a land agent and agriculturist, and one would suppose has had the opportunity of learning the usages which are common in decent society; but what are we to say to a man so boorish as to state this in the face of the Chairman, Mr. Thomas Sopwith, the manager of the largest lead mines in England, a F.R.S., and who has recently received an honorary degree from one of our most distinguished universities, leaving out of the question the courtesy due to a man so distinguished in science as Mr. Phillips, or to the representatives of some of the largest mining firms in the kingdom? From Mr. Scott's grossness we can certainly well believe that he speaks the result of his experience: we can only regret the bad company he has been in the habit of keeping. But seriously, if scientific men are to read their papers at the Society of Arts, they ought to be protected from such bucolic outburst—very suitable, no doubt, to a farmers' ordinary, but really out of place among a scientific assembly in the metropolis. H. S.

COAL AND THE COAL TRADE OF THE UNITED STATES.

SIR,—Being a citizen of the United States, and sojourning for a short time in London, I have read your Journal with very great interest, and have been amazed at the magnitude of the mining interests of Great Britain. I was not at all prepared to see the startling figures in regard to the production of the single article of coal. You state that the enormous amount of 66,640,450 tons were produced the last year! This is an exceedingly suggestive fact, and led me to think it might not be uninteresting to your readers to hear something about coal and the coal trade in the United States. I am not in the business, and I have access to very few documents, but you may rely upon the substantial accuracy of my statements. The United States contain about 133,132 square miles of coal, fully three-quarters of all the coal at present known to exist in the world. Of this the state of Pennsylvania contains the largest portion, and the state of Virginia the next.

The anthracite coal of the country is confined to a small portion of the eastern part of Pennsylvania. In other portions of the Union the coal is bituminous and semi-bituminous. The deposits of anthracite coal being near the great cities of the American Union have attracted most attention, and here we have definite facts and statistics; and the history of this trade can be presented in no more striking and impressive manner than by arranging the successive years and their corresponding productions side by side, beginning at the very commencement of the trade, 36 years ago. In 1820, the first coal was mined and used, and since that time the production has been as follows:—1820, 365; 1821, 1073; 1822, 2240; 1823, 5823; 1824, 9544; 1825, 34,893; 1826, 43,046; 1827, 63,434; 1828, 77,597; 1829, 172,083; 1830, 174,764; 1831, 176,820; 1832, 363,871; 1833, 187,733; 1834, 376,336; 1835, 560,758; 1836, 682,423; 1837, 881,473; 1838, 739,281; 1839, 809,327; 1840, 805,414; 1841, 953,899; 1842, 1,193,001; 1843, 1,264,539; 1844, 1,631,669; 1845, 2,023,052; 1846, 2,343,930; 1847, 2,982,808; 1848, 3,088,238; 1849, 4,242,856; 1850, 3,352,614; 1851, 4,418,515; 1852, 4,909,471; 1853, 5,195,151; 1854, 5,847,208; 1855, 6,626,288; 1856, 7,258,891; 1857, 7,868,948 tons.

This is one of the most eloquent and instructive pages of history ever written—bright with the record of honest labour and gigantic enterprise, and their reward.

The bituminous coal trade is not yet reduced to the same system as that of the anthracite, and its production can be stated only proximately; but it is safe to estimate the production of bituminous and semi-bituminous for 1857 at 2,500,000 tons. In this description of coal operations may be said to have scarcely commenced.

But the most significant of all the facts contained in the foregoing figures, is the rapidly augmenting ratio in which these yearly amounts increase, and the prophecies of the future which they contain. During the last three years as much coal was produced as in the first 26 years; and with the same ratio of increase, what amazing results will be witnessed in less than 20 years from the present time!

The elements of England's greatness are to be found in the coal and iron which God has given to her, and in her ability to use them, as well as His other gifts, to good purpose. But Great Britain, with an area of coal deposits amounting to only 11,859 square miles, and a population of about 30,000,000, raises now 66,640,450 tons. Then, why shall not the United States, with her 133,132 square miles of coal, produce within the next 20 years an equal amount, when we have at the present time a population of 30,000,000, and in the next 20 years will have at least 50,000,000? Why will not the same elements make us great which have made England great?

Judging from our past history, and from the amazing progress of our country, too large estimates for the production of the next 20 years can scarcely be made.

As already remarked, the development of the bituminous coal has scarcely commenced. The most valuable deposit of this coal is in Western Pennsylvania, Western Virginia, Ohio, Kentucky, Indiana, and Illinois—decidedly the best being in Pennsylvania, Virginia, and Kentucky. The whole valley of the Ohio river, though containing a population of some 7,000,000 or 8,000,000, is yet in its infancy: it does not number 25 persons to the square mile, while Massachusetts numbers 127, and in no part of the country is the demand for coal increasing more rapidly; indeed, operations are seriously impeded by the want of a full and regular supply of coal: the manufacture of iron has especially suffered. There is not now west of the Alleghany Mountains *one quarter* of the capital employed in the coal business which is required, and in view of the favourable terms on which coal land can still be purchased in the West, and the large profits said to be made by those who control sufficient capital, no safer or more desirable investments can be made in America than in the purchase and development of coal lands bordering on the Ohio river. Investments here, judiciously made, will be largely *profitable* at present, and *immensely* profitable in all coming time.

The people of the United States are often accused of being self-conceited, and elated with the idea that their country is, or is to be "the great power of the earth." Let us look for a moment at the situation of affairs, and see whether this is *possible* or *probable*. With all humility and lowliness of mind, we may watch all the eddies and ripples of that current on which we float to ascertain whether it is true that we are moving steadily forward to that position of great honour, but of equally great responsibility.

The nation which draws most materials and provisions from the earth, and fabricates the most and sells the most to other nations *must* and *will* be the great power of the earth. There are gathered in the United States those natural elements which, if used aright, *must* make the United States "the great power of the earth."

Our only competitor for this position is Great Britain, our *mother country*, and we most cheerfully bid her God-speed in every honest effort to secure it for herself, and enjoy it in perpetuity; and if to her shall be the honour to her will also be the heavy responsibility. The force of circumstances, however, are against her in the race.

Persons who have travelled on the great rivers in the western part of the United States have often witnessed an eager contest between two rival steam-boats. The captain, the officers, the engineers, the firemen, the cook, and even the passengers all, at length, enter into the spirit of the occasion, and with eager excitement they watch the progress of the boats. *Now* one and *now* the other shoots a few yards in advance. At length, mile after mile onward they go, so nearly matched that one power seems to impel them both. Long is the anxious suspense; but at last one of them begins to drop astern; further and still further she drops behind, while the other with undiminished speed pushes forward until her competitor is seen only in the distance, and will be soon lost sight of altogether; and when we learn the reason of this result, we find that the successful boat had a full supply of coal, while the rapidly diminishing supply of her less fortunate rival compelled her at length to abandon the hotly-contested race.

Such seems to be the contest between the United States and Great Britain. Of one stock, of one spirit, they are well matched for the race, and it is sure to be contested long and earnestly. When we speculate, then, on their chances in the race, it is well to enquire into the comparative amount of fuel which they have in their holds. Other things being equal, their prospect of success must depend at last upon this.

It may seem almost idle to speculate on the probable exhaustion of the supply of coal

Great Britain. But 70,000,000 or 80,000,000 of tons annually consumed, besides the waste in mining and transporting, and much of this taken from veins 2 to 4 feet thick, and one-half to one mile below the surface, must eventually practically find the end of its supply. And here I may be pardoned for saying it would be a mark of profound wisdom if English statesmen would look closely to this subject. It has been estimated that the supply of coal in England would be exhausted in 200 years; others suppose it will last 1,700 years; but whether it be 200 or 2000 years, the difficulty of obtaining it will increase every year; and what is to be the effect on her fires if even a small increase of price, or what the effect on those fires when her coal is practically exhausted. Viewed in this light, the day is coming, and may be much nearer than many suppose, when the United States must shoot far ahead of her stout and honoured competitor, whom she is striving so earnestly to reach. Great Britain is the elder, we are the younger. The British have led the van in the use of that fuel which so rapidly generates power in the world. We, with our Benjamin's portion, will emulate their example, and press on in their footsteps; we will neither envy them their priority of birth or of influence; nor will we boast of the large provision made to secure to us a glorious future. Other thoughts fill our minds, other desires fill our hearts. We invite Englishmen to come over with their capital and help us, and share with us in this glorious future.

AN AMERICAN.

VICTORIA IRON AND CEMENT WORKS COMPANY.

SIR,—As some of your correspondents are very desirous to obtain a description of the location of the iron-works which were lately destroyed by a slide of ground, near Whitby, I beg leave to furnish the following particulars:—I inspected the property in Oct. last. The works were built on the beach, a few feet above high water mark, near Hinderwell, about eight miles to the north of Whitby. The cliff behind rises abruptly to the height of about 254 feet. The formation of the cliff is composed of numerous horizonial strata of shale, clay, ironstone, &c., in that division of the sedimentary series known as the "lias." The sea frontage, belonging to the company, is about 250 yards wide. The whole thickness of the ironstone seams is about 18 feet. There is a fault intersecting the centre of the property, which has caused a dislocation of about 20 yards. The buildings comprise—two blast furnaces, with their usual appurtenance, and a blowing-engine, heating apparatus, &c.

In consequence of the buildings having been erected at the foot of the cliff, and on the beach, where the shale, clay, &c., were subject to slide down, it was necessary to build a sea wall to protect the engine-house and furnaces. Unfortunately, this wall was neither built sufficiently strong nor with large openings to drain the back ground: the result was it bulged and cracked before it was completed; and to make the case still worse, a high floor was made at the back with heavy clay, to accumulate the ironstone, and thus placed the works in imminent peril. The upper half of the wall was recommended to be taken down, and the ground at the back removed, so as to avoid danger. It was imperative that this should be done before the works were put in blast, and the wet weather set in.

Workings were carried on under the buildings towards the fault; these were recommended to be discontinued, as the whole foundation was endangered thereby. As the weight of the clay floor at the back was already to heavy to be supported by the retaining wall, it was recommended that the stock of materials should not be placed there.

I am as anxious as your correspondents to know how the works were destroyed. It is stated that there was a general sinking, as well as a slide from the back. I am now building piers and driving in the cliff on the coast of Dorset, in precisely similar formation—High Cliff—horizontal seams, intersected with faults; therefore, I should like to know if the catastrophe was caused by some unusual natural phenomenon, connected with the stratification, or from the want of proper timely precaution, and the want of care in selecting a foundation. The company is composed of good proprietors, and deserves a better fate.—*London, April* 20.

EVAN HOPKINS.

EAST WHEAL RUSSELL.

NICHOLAS ENNOR, MATTHEW FRANCIS, AND WILLIAM METHERELL.

SIR,—As I do not suppose that "Investigator" will think it necessary to notice the letter of Mr. Adolphus Ennor, will you allow me to make a few remarks? Mr. A. Ennor says it is time enough to "create a stir" about East Wheal Russell. Now, who began to create this stir? Why, Mr. Nicholas Ennor, who repentedly alluded to the "discovery" which had been made, and took credit to himself for having pointed it out; but now, when his attempt to "borrow plumes" is exposed, his son comes forward to say that it is no discovery worthy of notice after all! Can anything be more objectionable? The main charge against Mr. Ennor is that he wrote repeatedly letters to your Journal, alluding to the important discovery at the mine, and asserted that he had been the means of finding it, when the fact is that a number of "competent" agents had strongly advised the mode of working (in the eastern ground) for years before, which led to the good results. Was Mr. Ennor really ignorant of the advice they had given? If he were, he ought not to write about things of which he knows nothing. Does Mr. N. Ennor deny the authorship of the letters under his signature, which appeared in the Journal? "Investigator" referred to East Wheal Russell having been inspected several times by Capts. Charles Thomas of Dolcoath, Samuel Seccombe of Phœnix, J. Richards of Devon Great Consols, James Phillips of Bedford United, and James Pope of Basset. Let Mr. A. Ennor says that some of these are incompetent men. Will he inform us which of them he alludes to?

Again, Mr. A. Ennor says that some agents are considered able merely because they have returned the ore discovered for them; and afterwards tells us that at Ashburton Line (of which his father is the managing agent) they have been at work only three months, that only 350*l.* has been laid out in actual labour, and that they "have 500*l.* worth of tin ore taken from above the adit," and that "the promoters of this mine may well and justly feel a little conceited." We are not told whether all the expenses attending the preparation of the ore for market are included, or if it is actually *sold*; but does he mention the circumstance as an instance of incompetent agents returning the ore discovered for them, and in consequence thought to be "able" by some people? It is clear by his own showing that the tin ore spoken of must have been already found when they began to work. What conceit these promoters must have!

Adolphus says that if Ashburton United proves a failure, it will be only one in a lifetime. I beg he will give us in your next Journal a list of the successes. One will be serious to see it. Mr. Josiah Hitchins is well able to defend himself, and need not fear anything from all the remarks of the Ennors; but I venture to say that Mr. Hitchins can point to many more successful concerns of which he was one of the chief promoters than Mr, Ennor can. I will now conclude, advising Adolphus and his father to *stick to the facts*, and answer the questions put to them, and not divert attention by referring to irrelevant matters.—*April* 27.

J. S. D.

GOVERNMENT SCHOOL OF MINES.

Mr. WARINGTON SMYTH, in continuing the subject of Non-Metallic Minerals, said he first alluded to the making of common salt by the salines in practice on the shores of the Mediterranean. In Russia they had a method of making salt by congealing the sea-water into ice. This was afterwards broken off, and the salt retained. What, however, was most interesting to the mineralogist was the salt measures. It was not always necessary that these should be in the now red sandstone, as was supposed. This was the case in Cheshire and Worcestershire, and parts of Germany; but it was found in those of the medium species at Salzbourg, in the Austrian Alps, in the tertiary rocks of Spain, Hungary, and Transylvania, and in Wielizcka, in Poland. Several remarkable things are related of these mines, which have been worked for a considerable period. Large masses can be taken from them. The same may be observed of the Cheshire salt measures, but they are not so large. The blocks so cut can be sold in a rough state; otherwise they have to be purified. In some districts the salt is so impure that it appears as if you cannot use it, and this is especially the case in the Salzkammergut, in Upper Austria. It is there intimately mingled with gypsum and clay, especially the latter. If you cut this, it would not pay. Fresh water is introduced from the outside, through artificial galleries. The water attacks the salt, the clay is insoluble, and the gypsum can only be deposited in small quantities: these fall to the bottom, and a bed is made. By means of these galleries a large number of workings may be proceeding simultaneously. He would not attempt to explain the various hypotheses which had been advanced as to the presence of salt in Transylvania, in the tertiary strata, where it was found in large masses, 300 feet long, and nearly the same in width and thickness. Some of the bolder geologists of the Plutonic school say they must have been ejected in a molten state, due to volcanic action. In Wielizcka, Austrian geologists have found fossil leaves and plants of the same era as the brown coal formation. In the Dead Sea the salt is so great that it is difficult to immerse a human body in it; whilst the water from the River Jordan, which flows into it, is fresh.

The lecturer then alluded to the theory of Halley, the great astronomer, of small particles coming down, and fresh arising from the evaporation of the sun's rays. He would now point out an interesting fact, which had been first observed in Germany. Some substances in beds of marley clay were found to crystallise in cubes. It was soon recognised that these were crystals which had lost their chlorine, and that sediment had been deposited in its place. In Worcestershire and Nottinghamshire similar phenomena had taken place.

The two next minerals he should come to were baryta and strontian. The sulphates and carbonates of these minerals were much alike: they were, however, interesting to those connected with mining, as in general they lead to places containing metals, or were associated with ores. The first is called baryta, or heavy spar; in central England, hawk. It crystallises in the rhombic form. A large specimen was shown from Dufton Fell, in Westmoreland. And here he would impress upon them the desirability of becoming acquainted with the crystals of the different minerals. They ought never lose the opportunity of studying models, or the drawings in books, as from the knowledge of crystallography they might easily determine the character of a mineral. The hardness of baryta was from 3 to 3½, its specific gravity 4½, and is so heavy that it is sometimes difficult for the miner to separate it from the ore. It is either pinkish or colourless, the last being predominant. Sometimes it is bluish. It is used for commercial purposes, the principal, he was sorry to say, he believed was for the adulteration of white lead. It is a very common mineral to be met with in veins of lead ore in Shropshire and Montgomeryshire; and many mines were opened there more for the baryta than for the lead. It was found likewise in Cornwall, Devon, and Cork. As far as he knew, in the west of Cornwall it had only been discovered in one place—the United Mines, where it was of a greenish tint. Some beautiful specimens had been found in a mine near Lisheard. In the silver and lead mines of Freiberg it is so plentiful in some portions that the veins are called barytic. Its other localities are Przibram in Bohemia, Kremnitz in Hungary, Felsobanya in Transylvania, and in Spain in several of the silver mining districts. Specimens may be obtained not far from London, at the pits near Reigate, from whence the fuller's earth is got. Carbonate of baryta, or witherite, from Dr. Withering, its discoverer. The crystals in the general form resemble those of common quartz, and therefore the miner ought to be able to recognise this mineral, as it is valuable, when quartz is worthless. Its specific gravity is 4 to 9, hardness from 3 to 3½. It is colourless, to a greyish or greenish tint. Some remarkably fine specimens are obtained from the Snailbeach district. Its other localities are Shropshire, Alston Moor, and at Angiemark in Lancashire, where it was first discovered. He had himself found it near the town of Llanidloes in Montgomeryshire, and Cardiganshire. Baryto-calcite is interesting, as being a British mineral, containing lime and baryta in about equal quantities; it does not crystallise in the prismatic but the oblique form; is found in the neighbourhood of Alston Moor.

There is another mineral, called alstonite, which is physically different though chemically the same. It crystallises in the rhombic form. The hardness and specific gravity of the latter are rather greater. The carbonates and sulphates of strontian are very similar. Celestine is so called from its beautiful blue tint, though sometimes it occurs colourless, or of a white, grey, red, or yellowish tint. Its hardness is about 3 to 3½; specific gravity less than 4. Some beautiful specimens are obtained from Sicily. Before the blowpipe it burns with a bright carmine flame, and this can be heightened with hydrochloric acid. It is met with in nodules in the red marls near Bristol, and at the sulphur mines of Girgonti, in Sicily. Carbonate of strontian was first discovered at Strontian, in Argyleshire. The mine there, unfortunately, at present is worked but on a very small scale. The crystals are very diminutive, or in fibrous masses. It contains carbonic acid and strontian, with carbonate of lime. Before the blowpipe it melts, but only on the extreme edge. Its localities are Clausthal, Salzbourg, and Braunsdorf, in Saxony, and some parts of the United States. It is interesting to know that such chemists as Gmelin and Bischoff have proved that baryta exists in certain mineral springs. In Derbyshire fossils had been found embedded in baryta. Chemists had declared this mineral insoluble, because it was so in the laboratory. Nature, it appeared, had performed that which they could not effect.

RAILWAYS IN INDIA AND THE COLONIES.—The very interesting lecture recently delivered by Lieut.-Col. J. P. Kennedy, before the members of the United Service Institution, has just been issued in a pamphlet form, through Effingham Wilson. The author gives a brief account of the progress of British manufacture and commerce, and of the sources of increased production, and then discussed the military occupation and government of, the means of intercourse and transport, and base of military operations in India, the entire lecture proving the vast importance of railway communication. Several valuable statistical tables are appended, which very materially aid in elucidating the subject.

SPECIFIC GRAVITY OF ALLOYS AND AMALGAMS.—Messrs. Crace-Calvert and Richard Johnson read a paper on this subject at the Manchester Literary and Philosophical Society. They have arrived at the following interesting results—that certain alloys and amalgams made of pure metals and in equivalent quantities, have a higher specific gravity than indicated by theory, whilst others have a less specific gravity; for example:—Alloys having a higher specific gravity: Copper and tin, copper and zinc, copper and bismuth, copper and antimony, zinc and tin. Alloys and amalgams having a less specific gravity:—Mercury and tin, mercury and zinc, mercury and bismuth, bismuth and zinc, bismuth and antimony, lead and tin, lead and antimony. These researches reveal two important facts; first, that there is one metal, the alloys of which always contract (viz., those of copper), whilst all the amalgams expand, or have a less specific gravity; secondly, that the maximum expansion or contraction of alloys and amalgams always occurs in those which are composed of one equivalent of each metal, the only exception being those of tin and zinc. But the authors are able to account for these facts. All the alloys, with the exception of the latter, are compounds and not mixtures. Their researches on the conductibility of heat by metals and alloys, recently presented to the Royal Society, have established this conclusion.

WEEKLY LIST OF NEW PATENTS.

GRANTS OF PROVISIONAL PROTECTION FOR SIX MONTHS.—E. P. SHILLE, Regent-street: Warming or cooling atmospheric air, water, and all liquids of a similar density to it, warming them to the degree of heat necessary for their transformation into steam.—R. MACCAFFERTY, Lancaster, Pennsylvania: Preventing incrustations in steam-boilers.—F. A. LECORNU, Paris: Drawing and levelling instruments.—W. ROWLETT, Liverpool: Construction of electric telegraph cables or ropes.—J. RAE, Blackwall: Construction of iron ships.—R. ARMSTRONG, North Woolwich, J. GALLOWAY, Manchester: Apparatus and furnaces for heating, welding, or melting metals, parts of which improvements are applicable to other furnaces.—W. C. HOLMES, W. HOLLINGSHEAD, Huddersfield: Metal castings.—M. A. F. MENNONS, Paris and London: Voltaic batteries: R. OSBORNE, C. A. BELL, Derby: Suddenly detaching railway carriages or wagons.—A. V. NEWTON, Chancery-lane: Rotary pumps.—F. PRESTON, W. MCGREGOR, Manchester: Machinery for forging and cutting files.—W. SPENCE, Chancery-lane: Pedestals and journal boxes of railway carriages.—J. HARRIS, Woodside, T. SUMMERSON, Houghton-le-Skerne: Railway chairs.—P. BROTHERHOOD, Chippenham: Locomotive and other steam-boilers.—A. P. PRICE, Margate: Obtaining cadmium, and certain compounds thereof.—M. B. WESTHEAD, H. BAINES, Manchester: Machinery or apparatus for the prevention of accidents, applicable to hoisting and other lifting machines, employed in connection with railways and other places where heavy bodies require to be moved from one level to another.—J. HOWORTH, Farnworth: Appparatus to facilitate the discharge of smoke and prevent its return, which said apparatus is also applicable for the ventilation of buildings.—E. K. CALVER, Sunderland: Formation of harbours of refuge, which improvements are also applicable as a wave screen in other situations.—D. MOORE, Brooklyn, New York: Fire tongs.—A. OGILVIE, Soho-square, J. RICHARDSON, New Oxford-st.: Working steam engines.—E. and E. GREEN, Wakefield: Apparatuses for generating and superheating steam, and for heating.—B. PARKER, Clapham: Permanent way of railways.

PISTONS.—Mr. Marsh, Sheffield, has patented an invention to facilitate the adjustment, as it wears, of the packing of engine pistons. It embraces a combination to form the piston head of a skeleton frame, through which the piston rod passes, with plates and movable stems acting on springs to thrust out the steel and brass rings or packing. By a simple arrangement the springs are forced out and the packing with them. The operation only occupies a few minutes.

RAILWAY BREAK.—M. Fontaine-Moreau has patented an improved break. Each axle of the carriage is provided with two rack wheels, with gear and racks placed above and below the wheels, so that the traction in opposite directions (produced by the rotation of the rack wheels) is transferred to a horizontal shaft by means of levers, which cause it to turn until the breaks press against the wheels and rails.

SELF-ACTING BREAKS.—Mr. L. Brauer, of Washington, has patented a self-acting break. The break blocks are attached to bars that swing by links from the bottom of the cars, stops being provided to prevent the break blocks going too far back. There are two square cases placed under the cars, in which are smaller cases, which terminate with a flange where they meet between the two cars. The coupling link is kept in its place by springs, and a hook falls over the flanges of the inner cases, keeping them in contact, while the space between the two cars is filled by a door, wound round the axle of which is a cord, tied to a small pin in one of the cars. Two pins pass through the platform and coupling link, and thus fasten together the two cars, the slot in the link and springs allowing horizontal play in them. The inner cases are connected with bars, and pieces of india-rubber are placed between them. These bars are pivoted to levers that operate the breaks. So long as the cars are being pulled by the locomotive the tension of the cord keeps the door between the cars raised. If the speed is slackened gradually, and the train left to run out its momentum, the door drops, keeps the cars at a proper distance apart, and prevents the breaks operating. Should it, however, be required to stop the train suddenly, and the driver not only shuts off the steam, but applies his breaks, the suddenness of the jerk causes the door to drop on the platform of the other car, instead of between the two cars, the inner cases are pressed together, and the breaks applied. The moment the train is stopped the breaks are released, it is ready again to resume the journey, and the operation can be at any time repeated.

METAL WHEEL STOCKS.—At present some wheel stocks are made with an oil box behind, but fixed with a linch pin and cap; other wheel stocks are made without oil boxes, but have bolts through; patent mail axles and boxes have a metal box in a wooden stock. An invention has just been patented by Mr. Munro, of Bristol, which consists in combining the two systems of oil boxes and bolts of the stock, which may be of cast-iron, or other suitable metal.

METEOROLOGICAL AND PHILOSOPHICAL INSTRUMENTS.—Messrs. Negretti and Zambra, the well-known philosophical instrument makers, have just specified their patent for improvements applicable to the graduated scales of meteorological and philosophical instruments. (Patent agent, F. W. Campin, 156 Strand.) This invention is stated to consist in producing numerals, characters, &c., for the scales of these instruments, such as are usually painted, printed, or engraved; and when made of porcelain or other ceramic ware have been heretofore painted or printed, and then baked according to the known processes adopted by manufacturers, the same being afterwards glazed, and again baked. Instead of adopting any such processes, the inventors state that "We take the porcelain, or other ceramic or enamelled material, either in the biscuit or other state, and in the form or state required, so as to be ready for use, and produce the graduated scales and other signs, characters, letters, or delinentions required by etching alone, in similar manner as practised in etching on glass (the production of graduated signs, letters, and such like upon glass proper, not forming any part or portion of this invention); andwe effect this by the use of hydrofluoric acid, or fluoric acid gas, in the ordinary way of etching. Instead of making the siabs, or pieces on which the scales, &c., are to be produced, of porcelain, or other ceramic material, it may be desirable in some cases, to use a sinb, or piece of metal, or other suitable material, coated or enamelled with porcelain, and in this case the process will remain the same. We claim the production of graduated scales and other signs, letters, numerals, characters, and representations, upon porcelain, ceramic, and enamelled materials, by etching the same in the manner hereinbefore described."

GENERATING STEAM.—According to an invention provisionally specified by J. Honeyman, jun., of Glasgow, the heating water receives its necessary high temperature from tubes suitably arranged within heating furnaces. These tubes are conveyed through the boiler wherein the steam is to be raised.

MACHINERY FOR STAMPING OR RAISING METALS.—Mr. M'Cullum, of Birmingham, provisionally specified some improvements in stamps. In the cam or eccentric employed for raising the hammer, he introduces a joint, so as to give the said cam or eccentric the power of changing its radius and curvature, and thereby raising the hammer to a greater or less height. The opening of the jointed part he prefers to regulate by screws connecting the said jointed part with the fixed part of the cam or eccentric. In order to retard the fall of the hammer where it may be desirable to diminish its force, he places on one or both sides of the stamps, and by preference in the guides of the said stamp, springs or other mechanical agents, which, by pressing upon the hammer laterally during its descent, retard its motion and diminish the force of its blow. In order to arrest the hammer on its rebound ofter its first fall, and to prevent it from falling a second time until it has been raised to the proper height, he employs spring catches, one or more on either side of the stamp, the said spring catches engaging in the hammer. The said spring catches are so arranged as to be out of gear when the hammer is raised, and brought into gear by the descent of the hammer. The hammer on its rebound is thus caught by the said catches, and prevented, from falling again until it has been properly raised.

MANUFACTURE OF GAS.—Messrs. Mille and Canal, Paris, provisionally specified some improvements in the manufacture of gas, which consist in the use of tar and other residues arising from the manufacture of gas and other tars, resinous or fatty matters, mixed with thin shavings or chips, or pieces of wood, and sawdust of all kinds of wood. This mixture is distilled in ordinary gas apparatus, and the gas resulting purified by ordinary means; by this process a very pure and cheap gas is obtained of good lighting power. The proportions of the various substances employed are:—500 parts of the residue of gas or of fatty matter, 1000 parts of sawdust of any kind of wood, 500 parts of shavings, chips, or pieces of wood of any kind. In their various experiments they have found these proportions to be very suitable, but can vary them according to the nature of the residu, or eresinous or fatty matter, according to the sawdust and chips at their disposal, and according to the quality of gas to be produced.

At the ASSOCIATION FOR THE PREVENTION OF STEAM-BOILER EXPLOSIONS usual monthly meeting, on Tuesday, at the office of Mr. Henry Whitworth, secretary, Corporation-street, Manchester. the chief inspector, Mr. R. B. Longridge, presented his monthly report, from which the following are extracts:—During April, 249 visits have been made (7 special), 653 boilers, and 498 engines inspected. Of these boilers, 4 were found in a dangerous state from the following causes:—Over-pressure, 1; fracture of plates, 1; deficiency and objectionable position of safety-valves, 2: total, 4. The following were likewise defective:—From corrosion of plates, 9; fracture of plates, 6; injury resulting from deficiency of water, 1; safety-valves not in working order, 8; pressure-gauges incorrect, 2: total, 26. In reference to these, I must again direct attention to the highly objectionable arrangement where stop-valves are placed between a safety-valve and the boilers with which it is connected, there being no safety-valve on the boilers themselves; likewise to the dangerous practice of using packing where the valve-spindle passes through a stuffing-box. Examples of both kinds have come under our notice during the present month. The other defects do not merit remark.

At the HUDDERSFIELD ASSOCIATION FOR PREVENTING STEAM BOILER EXPLOSIONS meeting, on Tuesday, Mr. C. H. Holt, the engineer to the association, reported that from tha establishment of the society, about two months since, to the present time, he had examined internally 83 boilers, and reported thereon. The association has been so far successful in uniting a large proportion of the leading millowners of the district—67 firms, representing 152 boilers, have already entered as members.

PRUSSIAN COAL AND IRON MINES.—The Administration of the Mines of Prussia have published the report on the working of last year, which shows that it has considerably increased. The coal mines in particular have made great progress. The production of iron has also greatly increased, the Rhenish provinces and Westphalia now rivalling with Silesia in this particular, and the question has been in agitation whether Berlin cannot be supplied from the former instead of, as hitherto, from the latter country. The increased cost in the carriage will be more than compensated for by the superior quality. English coal has not been at yet superseded at Berlin, large quantities continuing to arrive for the gas-works.

SUNDAY LABOUR AT IRON FORGES.—A workman employed at Earl Granville's furnaces, at Sheiton, recovered 1*l.* 12*s.* 8*d.*, and costs allowed, for damages for being dismissed without notice. He was ordered to go to work on the Sunday morning, but got drunk, and did not present himself until Monday morning. The verdict was given because the working of blast-furnaces on Sunday is illegal, the Lord's Day Act permitting only work of necessity or charity.

An explosion of a boiler occurred at one of Messrs. Charlesworth's pits, near Barnsley. A large quantity of bricks, &c., were blown to a distance of 100 or 150 yards. No one was injured. The engine-house escaped with but little damage, but the chimney has suffered severely, and will probably have to come down. The works will be stopped for at least a fortnight. The pit employs on an average 80 men.

WEST STAVELEY COAL COMPANY.—The financial stoppage of this company is likely only to be of a temporary character. Mr. Morrison, who is a creditor to about 800*l.*, has offered to give 6000*l.* to be allowed to use the plant and to work the colliery for 15 months; at the end of which time he is either to continue it at a valuation, or a joint-stock company to be formed. The 6000*l.* to be divided amongst the unsecured creditors. We understand the greater part of the creditors have agreed to Mr. Morrison's proposal. There are between 300 and 400 hands employed, and the colliery is situate near Chesterfield, and has a direct railway communication with the Midland line.

THE NORTH WALES MINING DISTRICTS.—In consequence of the improvements in the iron trade of South Staffordshire, the coal trade of this district continues pretty good, at the Vron Colliery especially, which is supplied with an abundance of orders. The others are moderately so. The land sale business is but limited. The iron trade exhibits not the slightest symptoms of improvement, either in pigs or bars.—*Manchester Guardian.*

RAILWAY TRAFFIC.—The Traffic Returns of Railways in the United Kingdom for the week ending April 24 amounted to 432,658*l.*, and for the corresponding week of 1857 to 444,654*l.*, showing a decrease of 11,996*l.* The gross receipts of the eight railways having their termini in the metropolis amounted for the week ending as above to 178,024*l.*, and for corresponding week of 1857 to 183,683*l.*, showing a decrease of 5659*l.*

The decrease on the Great Western Railway amounted to 372*l.*; on the London and North-Western to 6774*l.*; on the London, Brighton, and South Coast to 869*l.*; and on the South-Eastern to 966*l.*—total, 8981*l.* But from this must be deducted 2234*l.*, the increase an the Eastern Counties, 755*l.* on the Great Northern, 29*l.* on the London and Blackwall, and 304*l.* on the London and South-Western; together 3322*l.* leaving, the decrease, as above, 5659*l.*

The receipts on the other lines in the United Kingdom amounted to 254,634*l.*, and for the corresponding week of last year to 269,271*l.*, showing a decrease of 6337*l.* In the receipts of those lines, which, added to the decrease on the metropolitan lines, makes the total decrease 11,996*l.*, as compared with the corresponding week of 1857.

LEEDS.—Messrs. Gledhill and Co. report—"There is an improvemen t in mines and mining shares: a heavy cloud has hung over us for many months, little o r nothing doing. The great change in the money market, and the want of confidence in railway stock, is tending to a renewed spirit in mining, which is by far the safest investment of the day. Many of our mines are greatly improved, and paying large dividends, but, being held in private hands, do not appear in your Journal; we will, however, supply you with some remarks on them. At Craven Moor, they are raising a large quantity of ore from the part recommended by Mr. Evan Hopkins; the shares are in great demand. The Yorkshire Mining Company shares are at a premium, though they have cut no ore, but are in hourly expectation; they deserve success, having persevered for years. The Victoria Iron Company are about to press on their works, nothing daunted by the late slip, reported to have caused a loss of from 15,000*l.* to 20,000*l.*, but which will prove not to be near so many hundreds."—*April* 28.

Our Sheffield correspondent (Mr. George Wilson) reports that the mining share market continues in the same languid state, with nothing doing, as when last reported. The quotations are nominal, as follow:—Brightside and Froggatt Grove, 3¼ to 4; Chapel Dale, 3¼ to 3⅜ prem.; Cowden Rake, ¼ to ⅜ prem.; Crafnant, ⅛ to 1; Eyam, 46 to 48; Mill Town, 3½ to 3¾; Mill Dam, par to 1*s.* prem.; New Midland, ¼ to ¾ prem.; North Derbyshire, ⅞ to 1⅛, ex new ₱ Peak United, 1½ to 2; Peak Forest, 1¼ to 1¾ prem.; Prince of Wales, 3½ to 4; Stoney Way, par to ¼ prem.; Wheal Mary Great Consols, 1 to 1½.

LEAD SMELTING.—WANTED, a MANAGER for a SILVER-LEAD SMELTING WORKS, who must be thoroughly competent to take the entire management of the operations, and to conduct them upon the most approved system. Testimonials will be required, and applications must be addressed to "A. Z.," care of Messrs. Brunton and Co., 5, Waterloo-place, Pall Mall, London, S.W.

WANTED, AN AGENCY.—A PRACTICAL MINER (Aged 28 years), who has had eight years' experience as an AGENT, and thoroughly understands both underground and surface operations, and can give unexceptionable testimonials, WANTS AN APPOINTMENT. No objection to go abroad.—Address, "A. B.," Post-office, Marazion.—Marazion, April 29, 1858.

WANTED, a PARTNER in a BLAST FURNACE, recently erected in the West of England, and commanding unusual advantages from the proximity of iron ore and coal, which are being obtained at very low rates.—Further particulars, as to capital, &c., may be obtained on application, by letter, to "X. Y. Z.," care of W. E. Chessell, Esq., 5, Queen-square, Bristol.

WANTED, a NEW or a good SECOND-HAND CRUSHER, with 20 in. rolls; also, EIGHT 6 in. 9 ft. PUMPS; to be delivered at PENDEEN CONSOLS MINE.—Letters, stating price, &c., to be addressed to the Committee of above mine, 2, Bank Chambers, London; or to the agent on the mine.

TO BE SOLD, for the benefit of the creditors of the late Rev. JAMES COZENS, THREE-QUARTERS of FORCH NEST MOUNTAIN, in the parish of Ystradyvodog, in the county of Glamorgan, all lying under minerals.—Applications to be addressed to the Widow, Ynys-y-Plwin, Lantrissant, Glamorganshire.—April 22, 1858.

MINERALS ON LOCH FYNE TO LET.—See Advertisement in this Journal, page 278, 24th April, 1858. One deposit of iron ores let, but one equally good still to let.

LINZ COLLIERY COMPANY (LIMITED).—TO BE SOLD, a FEW SHARES in the above COMPANY, £95 per share paid. The first year's balance-sheet has just been rendered, showing upwards of £10 per cent. profits.—Address to "P. T.," *Mining Journal* office, 26, Fleet-street, London.

PITCH PINE TIMBER.—JUST LANDED, ex *Glencairn* PITCH PINE TIMBER, suited for mine rods and other general mine purposes.
HARVEY AND CO., Hayle.

IRON CHURCHES.—WANTED, a NEW or a SECOND-HAND IRON CHURCH, to seat comfortably 800 to 1000 persons.—Full particulars, with cost, to be addressed to "150, Private Box," Post-office, Newcastle-on-Tyne.

LEAD FOR EXPORTATION.—PIG-LEAD (hard and soft) SOLD at LOW RATES. The BEST PRICE given for LEAD ASHES, &c., and OLD LEAD.—ROUPELL and Co., Southwark Lead Works, Gravel-lane, London.

NEW HORIZONTAL STEAM-ENGINES, from 3-horse power upwards, STRONG, GOOD, and CHEAP, with or without boilers.—THOMAS ELLIOTT, engineer, 33, Tipping-street, Ardwick, Manchester.

GOLDENHILL, COBALT, NICKEL, COLOUR, BORAX, AND CHEMICAL WORKS,
NEAR STOKE-UPON-TRENT, STAFFORDSHIRE.
JOHN HENSHALL WILLIAMSON, MANUFACTURER AND REFINER.
Reference.—Professor Miller, King's College, London.

NICKEL AND COBALT REFINING, AND GERMAN SILVER WORKS, 16, OOZELL STREET NORTH, BIRMINGHAM.
STEPHEN BARKER begs to inform the Trade that he has the following articles for sale:—

REFINED METALLIC NICKEL.	OXIDE OF COBALT. [WIRE, &c.
REFINED METALLIC BISMUTH.	GERMAN SILVER—IN INGOTS, SHEET,

NICKEL AND COBALT ORES PURCHASED.

GEOLOGICAL MAP OF THE TAVISTOCK MINING DISTRICT; to be published in the best style of Chromo-Lithography.
The MAP to comprise the ENTIRE SERIES of MINES, with their BOUNDARIES, between the TAMAR RIVER and the LYDFORD, supposed to extend 12 square miles.
This work has long been required by the public, and will be carried out with the skill and ability experience only can command The scale is proposed to be 12 chains to the inch; the size of the map will, therefore, be convenient.
The copies will be delivered in the order of subscription, at One Guinea each. Subscribers, therefore, if desirous of obtaining early impressions, will oblige the publisher by forwarding their names.
Attested copies may be secured by a post-office order for 5*s.* at the time of subscribing, and the remaining 16*s.* per copy to be paid at the time of delivery.
Subscriptions received by Mr. CHARLES WILLIAMS, Tavistock, Devon, the publisher; or at the *Mining Journal* office, 26, Fleet-street, London.

Just published, price 2*s.* 6*d.*
PROCEEDINGS OF THE SOUTH WALES INSTITUTE OF ENGINEERS FOR JANUARY,
Containing the President's Inaugural Address; on the Manufacture of Tin-Plates, by Mr. E. Rogers; on Blast Furnaces, by Mr. Parry.
London: *Mining Journal* office, 26, Fleet-street; and may be had of all booksellers.

THE PRACTICAL MECHANICS' JOURNAL.
No. 122, May, 1858, 4to., sewed, price One Shilling.
CONTENTS.—Original Articles on Mechanical Engineering and Chemical Science, History of the Sewing Machine, Messrs. Richardson's Marine Engines (with plate), Mechanical Notes from America, Fold Opener for Fulling Machines, Society of Arts Exhibition, Mechanical Moulder for Railway Chairs (with plate), Lübnitz and Henderson's Marine Engines, Holmes's Magneto-Electric Machines, Robertson's Cranes, Bell's Reaper, Watson's Heddles, Kerr's Thread Polisher, Johnson's Pressure Gauges, Paisley and Bertram's Paper Machinery, Wright's Furnace Feeder, Hoare's Hand Seed Planter, Finlay's Segmental Lipped Ashpan, Ramage's Self-Acting Valve Ventilator, Floating Rubber Washing Machine; with Monthly Notes of Scientific Novelties and Memoranda, Patent Law Cases, Lists of Patents and Designs Registered, and about 50 Woodcuts.—Longman and Co., Paternoster-row; Editor's Offices (Offices for Patents), 47, Lincoln's Inn-fields.

ABERDARE WATER-WORKS.—TO IRONFOUNDERS.—The ABERDARE WATER-WORKS COMPANY will be prepared to receive TENDERS for 550 tons of CAST-IRON PIPES, according to plans and specifications, which may be seen on and after Monday the 19th inst., at the offices of the secretary, Cardiff-street, Aberdare; or at those of the engineer, Mr. WILLIAM WILLIAMS, at the Bute Dock Office, Cardiff.

The tenders to be sent in under seal to the secretary, at Cardiff-street, Aberdare, on or before Tuesday, the 18th of May, marked "Tenders for Pipes." The company do not bind themselves to accept the lowest or any tender.

Cardiff-street, Aberdare, April 8, 1858. By order, FRANK JAMES, Sec.

TO ALKALI AND SULPHURIC ACID MANUFACTURERS.—The ADVERTISER has had the sole management of a large manufactory for several years, and is competent to PLAN, ERECT, or MANAGE a similar concern of any magnitude, and on the most improved principles. His present engagement being about to terminate, he is OPEN to TREAT with manufacturers having works at present in operation, or capitalists about to erect the same, in any part of England or abroad. Highly respectable reference as to ability and character will be given.—Communications may be addressed to "X. Y.," care of Mr. Jas. Newton Warburton, 30, Cumberland-row, Newcastle-on-Tyne.

TO CAPITALISTS.—PARTNERSHIP.—The PROPRIETOR of a COLLIERY, of the well-known ARLEY SEAMS, wishes to reduce his interest, and TRANSFER the WORKS to a JOINT PROPRIETARY with himself, in shares of £500 each.

The fixed working plant, comprising two shafts of 250 yards, one of 134 yards, and one of 10 yards, offices, smithies, joineries, storehouses, cottages, circular saw shed, engine-houses for three engines, Ashlar beds for six engines, 14 coke ovens, lime kilns, top roads, well appointed stone brows for circular riddles, and stone wharves at canal and railway; to be taken at £10,000. The moveable stock and proprietors' rights to be taken at a valuation.

The colliery is in the centre of the Lancashire manufacturing districts, and has direct canal and railway communications. The plant is complete for raising 2000 tons weekly, and 60 acres are cut out.

Further information will be supplied to parties of undoubted stability by W. GEDDES SMITH, Scotch law agent, 5, Castle-street, Liverpool.

FIRE-BRICK CLAY IN CLEVELAND, NORTH YORKSHIRE.—TO BE LET, for a term of years, a very valuable SEAM of FIRE-BRICK CLAY, of about 6 or 7 ft. thick, obtained by drift, extending under nearly 100 acres, contiguous to the Cleveland Railway. A most favourable opportunity is afforded to an enterprising capitalist, or small company, to erect works in Cleveland, close to the railway, for making fire-bricks, sanitary pipes, &c., as there are no works of this description within about 40 miles, and the numerous furnaces in the Cleveland district require large quantities of bricks.—For particulars, apply to Mr. PRATT, Stokesley, Yorkshire.

TO BE SOLD, a COMPLEX of COPPER MINES, situated two miles from the Rhine, of which one is known as the BEST in the mine office district; two being DIVIDEND MINES, the other PROGRESSIVE MINES, with prospect of dividends in a short time.—For further particulars, apply to Mr. ERNST WINKLER, at Overath, near Cologne.

FOR SALE, a 24 in. WHIM HORIZONTAL ENGINE, with a 10 tons boiler, nearly new, in excellent condition, and drawing machine attached. As this engine is very superior in make and condition, parties requiring one will do well to examine it.—Apply to Mr. C. WESCOMB, 21, Southernhay, Exeter.

TO BE LET, OR SOLD, a LARGE YARD, with commodious BUILDINGS, together with about 5000 yards of LAND. The property adjoins the London and North-Western and Great Western Stations at Wolverhampton, and is peculiarly suitable for railway carriage or other works requiring large premises. A siding communicates with the railways, also the right of use of a canal basin, with powerful crane.—For particulars, apply to Messrs. PINCHARD and SHELTON, solicitors, Wolverhampton.

IBERIAN MINING COMPANY (LIMITED).—Notice is hereby given, that a GENERAL MEETING of the shareholders of this company will be HELD at the offices, No. 72, Old Broad-street, London, at Half-past Twelve o'clock, on Thursday, the 6th day of May next, which will afterwards be made SPECIAL, for the purpose of formally winding-up this company, in accordance with the resolution passed at the last meeting of the shareholders. By order of the Board,

April 27, 1858. S. J. GREEN, Sec.

PENINSULAR MINING COMPANY (LIMITED).—Notice is hereby given, that a GENERAL MEETING of the shareholders of this company will be HELD at the offices, 72, Old Broad-street, London, at One o'clock, on Thursday, the 6th day of May next, which will afterwards be made SPECIAL, for the purpose of winding-up the company, in accordance with the resolution passed at the last meeting of shareholders. By order of the Board,

April 27, 1858. S. J. GREEN, Sec.

CASTILIAN MINING COMPANY (LIMITED).—Notice is hereby given, that a GENERAL MEETING of the shareholders of this company will be HELD at the offices, 72, Old Broad-street, London, at Two o'clock, on Thursday, the 6th day of May next, which will afterwards be made SPECIAL, for the purpose of formally winding-up this company, in accordance with the resolution passed at the last meeting of shareholders. By order of the Board,

April 27, 1858. S. J. GREEN, Sec.

THE NORTH BRITISH AUSTRALASIAN COMPANY (LIMITED).—Whereas, the SECOND and REMAINING INSTALMENT, or CALL, of TEN SHILLINGS per share, with interest thereon at £5 per annum from the 23d Jan., 1854, made payable by the 8th of the Company's Regulations on or before the expiration of three calendar months from the 27th July, 1857, has NOT BEEN PAID upon the following 426 shares of this company, created in April, 1853—viz., 103, 168, 475, 507, 508, 516, 525, 526, 527, 528, 569, 570, 611, 754, 759, 760, 761, 777, 778, 779, 780, 781, 782, 785, 793, 798, 1456 to 1460, 1531 to 1535, 1541 to 1545, 1546 to 1550, 1806 to 1810, 1886 to 1890, 1891 to 1895, 2366 to 2370, 2496 to 2500, 2501 to 2505, 2891 to 2895, 2896 to 2900, 2901 to 2905, 2911 to 2915, 2916 to 2920, 3406 to 3410, 4591 to 4595, 4601 to 4605, 4606 to 4610, 4611 to 4615, 4626 to 4630, 4731 to 4735, 7516 to 7520, 7606 to 7610, 7621 to 7625, 8266 to 8270, 9686 to 9610, 9691 to 9695, 10,356 to 10,360, 10,476 to 10,480, 10,806 to 10,810, 10,811 to 10,815, 19,701 to 19,710, 19,711 to 19,720, 23,121 to 23,130, 23,141 to 23,150, 23,351 to 23,360, 23,361 to 23,370, 24,831 to 24,840, 25,071 to 25,080, 28,171 to 28,180, 28,181 to 28,190, 28,191 to 28,200, 28,541 to 28,550, 31,281 to 31,300, 38,241 to 38,260, 58,281 to 58,300, 62,461 to 62,480, 62,621 to 62,640, 62,641 to 62,660, all inclusive.

The Directors, under the authority of the 19th of the company's regulations, do hereby call on and require the shareholders, and every of them holding the said shares, or any of them, to pay the said second and remaining instalment, or call, of 10s. per share, with interest thereon at £5 per cent. per annum from the 23d Jan., 1854, at Messrs. Hankey's, bankers, No. 7, Fenchurch-street, London, on or before Tuesday, the 1st day of June, 1858. And the directors hereby give notice that, in the event of non-payment at the time and place appointed, the shares in respect of which such money or call is due will be liable to be forfeited, and will be forfeited by resolution of the directors accordingly.

By order of the Directors, DAVID BUDGE, Sec.

Dated this 1st day of May, 1858, 27, New Broad-street.

NOUVELLE MONTAGNE COMPANY.—At the General Meeting, held at Engis the 19th April, it was resolved,—That the DIVIDEND for the year 1857 should be SEVENTY-FIVE FRANCS per share, payable as follows:—50 frs. the 1st of July next, as first dividend, on presentation of the Coupon No. 6, which, marked with a stamp indicating the payment, will be returned to the holders, to enable them to receive 25 frs. the 31st of December next, as second dividend.

The following bonds have been drawn to be reimbursed the 1st of July next:—

Nos. 2 ..	Nos. 134 ..	Nos. 212 ..	Nos. 378 ..	Nos. 452 .. Nos. 624
10 ..	139 ..	216 ..	381 ..	473 .. 627
24 ..	140 ..	238 ..	386 ..	477 .. 644
33 ..	141 ..	264 ..	390 ..	507 .. 648
45 ..	142 ..	274 ..	397 ..	542 .. 674
54 ..	143 ..	293 ..	410 ..	551 .. 701
100 ..	144 ..	302 ..	414 ..	567 .. 713
102 ..	149 ..	321 ..	418 ..	580 .. 721
108 ..	186 ..	332 ..	419 ..	596 .. 748
116 ..	187 ..	343 ..	438 ..	609 .. 749
133 ..	205 ..	362 ..	451 ..	612 .. 766

The payment of the dividend, also of the bonds drawn, and the coupons of interest, will be made at—

Verviers, at the Office of the Company.
London, by Messrs. C. Devaux and Co.
Paris, by Messrs. Rougemont de Lowenberg.
Bruxelles, by Messrs. J. P. Matthieu et Fils.
Liége, by Messrs. Nagelmackers et Fils.

Le Directeur-Général de la Société, VICTOR SIMON.

Verviers, April 24, 1858.

SLATE SLABS AND ROOFING SLATES.—The PROPRIETORS of the NEW MACHNO SLATE AND SLAB COMPANY (LIMITED) have, at great cost, made arrangements to convey their produce from their quarries near Ffestiniog to Conway, to obtain the great advantage of access to the railway, giving them the facility of executing orders without the slightest delay. They trust that making Conway their shipping port will not cause them to be confounded with those hitherto known as the Conway Slates, as the MACHNO SLATES are ENTIRELY FREE from PYRITES, or any metallic substance liable to oxidation; and, from having been tested in Wales for at least half-a-century, are found to attain a degree of hardness, by exposure to the atmosphere, unknown in any other vein. The MACHNO SLABS are too well known to need comment, but the annexed valuable testimonial from Mr. Magnus, and also a strong chemical test to which they have been subjected, will better explain their quality:—

Pimlico Slate Works, Upper Belgrave-place, London, April 7, 1855.—GENTLEMEN: I very readily offer my testimony to the excellence of your slabs raised at the Machno Quarries. I prefer them to all others obtained in North Wales, with one exception, and that is much of the same quality as the Machno. The slabs can be obtained of large sizes, and of every requisite thickness. They are homogeneous in texture, strong, of good colour, free from spots and other impurities, pleasant to the tool of the mason, easily planed and moulded, and will bear exposure to a much higher degree of heat than slabs from any of the Carnarvonshire quarries. Signed, G. E. MAGNUS.

To the Proprietors of the Machno Slate and Slab Quarries.

Liverpool, Oct. 18, 1855.—DEAR SIR: The experiments which I have tried on the specimen of slate, in reference to its capability of resistance to acids, enable me to pronounce it in every way capable of retaining boiling vinegar, without injury either to its own substance, or to the contained vinegar. A piece of the slate, weighing 95 grs., was exposed for 26 hours to the action of cold strong nitric acid; it was then boiled in the same acid for 20 minutes, and when washed, dried, and weighed, was found not to have lost perceptibly in weight. This I consider the most conclusive experiment.

Signed, GEO. C. HUSON.

Wm. Orme Carter, Esq., Machno Slate and Slab Company

All communications must be addressed to the resident director, Mr. T. H. WHEELER, Conway, North Wales.

UNITED STATES OF AMERICA.—DUPEE, BECK, and SAYLES, BOSTON, MASSACHUSETTS, BROKERS for the PURCHASE and SALE of STATE, CITY, and RAILROAD SECURITIES, MANUFACTURING, and BANK SHARES, give particular attention to the MINING COMPANIES of LAKE SUPERIOR, and furnish reliable information concerning them.

[DUPEE, BECK, and SAYLES refer to the Editor of the *Mining Journal*.]

EXMOUTH CONSOLS MINE, DEVON.

MR. JOHN HATCH has received instructions to OFFER FOR POSITIVE SALE the above valuable MINE, at Garraway's Coffee House, Cornhill, on Monday, the 3d day of May, subject to conditions then to be read. The LEASE, of which 19½ years are unexpired, together with the BUILDINGS, PLANT, and computed 40 tons of ORE, the STORES, and WHOLE of the EFFECTS of the MINE.

The mine is situated at Christow, nine miles from Exeter, held under lease from Viscount Exmouth, at 1-15th dues, and is a most promising speculation.

Particulars may be had of the auctioneer, at his offices, Chapter Chambers; at Garraway's Coffee House; of the secretary, 3, Crown-court, Threadneedle-street; or J. WYATT, Esq., South-square, Gray's Inn.

BUTTERDON MINE, SITUATE IN THE PARISH OF MENHENIOT, CORNWALL.

MR. PETER HAMBLY WILL SELL, BY AUCTION, at the above MINE, on Tuesday, 4th May next, the MATERIALS, MACHINERY, &c., comprising an excellent 22 in cylinder STEAM PUMPING ENGINE, 10 feet stroke, equal beam, with 10 tons boiler; one piece of main rod, with caps, &c.; shears, with pulleys; 8-arm capstan, balance-bob, 45 fms. 8 in. main rods, strapping-plates, and rod pins, about 3 dozen staples and glands.

1 12 ft. 9¼ in. plunger and case complete.
1 12 ft. 8 in. plunger-pole complete.
16 9 ft. 9 in. pumps.
13 9 ft. 8 in pumps.
1 6 ft. 8 in. pump.
1 12 ft. 8¼ in. working-barrel.
2 13 ft. 7 in. working-barrels.
16 fms. pumps, for house water lift.
1 12 ft. 5 in. plunger-pole, with case complete.
1 9 ft. 10 in. windbore.
1 3 ft. 8 in. doorpiece, 3 matching pieces.
1 6 ft. 8 in. doorpiece.
1 9 ft. 10 in. flat bottom windbore.
2 8 in. bucket prongs, joints, &c.
2 7 in. bucket prongs, joints, &c.

20 fms. 1½ in. iron rods; several dozen 1¼, 1⅛, and 1 inch bolts and nuts; a quantity of wrought and cast-iron, smiths' bellows, anvil, vice, screw-plates, with taps, stock and jack; horse whim kibbles and pulleys, a quantity of best ⅝ in. chain, 3 in. and other ropes, about 40 fms. of dividing and casing, a quantity of useful timber, carpenters' bench, miners' chests, 4 wood sheds, dressing utensils, several hundred feet of wood flooring, about 60 fms. of ladders, 4 in. launders, a good winch, cross-cut saw, account-house furniture, and various other useful articles.

The sale will commence precisely at Two o'clock in the afternoon.

Liskeard, April 8, 1858.

MINING, AUCTION MART, AND OTHER SHARES, AND A FEW PICTURES.

MESSRS. WINSTANLEY have received instructions to SELL, BY AUCTION, at the Mart, on Thursday, the 6th May, pursuant to a Decree made in a Cause "BLAKE *v.* HOGGART AND OTHERS"—

16 Shares in the Auction Mart, a first-class freehold investment, in the City of London.
10 Shares in the Copiapo Mining Company.
16 Shares in the Wilts and Berks Canal.
10 Shares in the Kennet and Avon Canal.
10 Shares in the undertaking of the Great Level of the Wash; and
552 Shares in the Highgate Archway Company.
Also, EIGHT PICTURES, by esteemed masters.

Printed particulars may be had of Mr. CHAS. BLAKE, solicitor, 4, Serjeant's Inn, Temple, E.C.; of Messrs. CLAYTON, COOKSON, and WAINEWRIGHT, solicitors, 6, New-square, Lincoln's Inn, W.C.; at the Mart; and of Messrs. WINSTANLEY, Paternoster-row, E.C.

PENZANCE, CORNWALL.

IMPORTANT AND EXTENSIVE MANUFACTURING PREMISES, held at a ground rent, bounded by the sea wall, in the occupation of the LONDON AND PENZANCE SERPENTINE COMPANY, with the option of taking the valuable PLANT and MACHINERY, and the LEASES of SIX QUARRIES.

MR. BOYES has been instructed by the Official Liquidator (appointed by the Court of Chancery to wind-up the above company) to SELL, BY AUCTION, at Garraway's Coffee House, on Monday, the 17th May, at Twelve o'clock, the above valuable PROPERTY.

The PREMISES are extensive, have been built with stone during the last four years in a most complete and substantial manner, at a cost of several thousand pounds, and contain a noble SHOW-ROOM, FACTORY, MASONS and TURNERS' SHOPS, POLISHING ENGINE, and STORE-ROOMS, SMITHY, BOILER-HOUSE, LARGE SHED, YARD, &c.; also, a desirable PLOT of BUILDING LAND, having a frontage of about 400 ft.

The MACHINERY is of the best description, and in excellent working condition.

To any party desirous of embarking in this business, a most desirable opportunity is hereby offered; but the premises, from their extent and eligible situation, and from their possessing every modern improvement, offer unusual advantages for many other manufacturing purposes. A plan and elevation may be seen at the auctioneer's offices.

The premises may be viewed. Particulars may be had thereon; of Messrs. CLUTTON and ADE, solicitors, 48, High-street, Southwark; of H. CROYSDILL, Esq., official liquidator, 84, Basinghall-street; at the principal hotels at Plymouth and Truro; at Garraway's; and at the auctioneer's offices, 33, Abchurch-lane, London.

TO NOBLEMEN, GENTLEMEN, ARCHITECTS, BUILDERS, AND OTHERS.

MR. BOYES respectfully announces that he WILL SELL, BY AUCTION, in London, during May, the EXTENSIVE and valuable STOCK IN TRADE (removed from Penzance) of the LONDON AND PENZANCE SERPENTINE COMPANY, consisting of a LARGE ASSORTMENT of CHIMNEY-PIECES of elegant design, BEAUTIFUL TABLES, EXPENSIVE FONTS and COLUMNS, and a great variety of ORNAMENTAL ITEMS. The days of sale and further particulars will be advertised in a few days.—Abchurch-lane, April, 1858.

IMPORTANT SALE OF CHEMICAL WORKS.
TO ALKALI MANUFACTURERS AND OTHERS.

MR. BROUGH, Auctioneer, WILL SELL, BY AUCTION, at the Queen's Head Hotel, Newcastle-upon-Tyne, on Thursday, the 27th day of May, 1858, at One for Two o'clock P.M. precisely, by order of the Mortgagees, and with the consent of the Assignees of Mr. A. G. Gray, a bankrupt, ALL those extensive and very complete CHEMICAL WORKS, situate at FRIAR'S GOOSE, on the River Tyne, lately occupied by Mr. A. G. Gray.

The works are of recent erection, comprise all modern improvements, stand on about 15 acres of ground, and are held under leases from the Master and Brethren of King James's Hospital for long terms, at a moderate rent.

It is impossible fully to describe the works in the limits of an advertisement; the following brief outline will enable persons to estimate their capabilities:—There are separate departments for the manufacture of sulphuric acid, sulphate of soda, black ash, alkali, bicarbonate of soda, bleaching powder, and Epsom salts. There are dissolving and crystallizing departments, a salt warehouse to contain 1500 tons, three steam-engines, saw mills, reservoir, 13 coke ovens, gas apparatus, blacksmiths, painters, joiners, plumbers, millwrights, pattern, and coopers' shops, all of large dimensions; deposit ground, spacious offices, laboratories, cottages, excellent dwelling-house, foreman's house, stables, and all other conveniences for carrying on business on a very extensive scale.

The works are admirably situated on the South Bank of the Tyne, one mile east from Newcastle and Gateshead, having large river frontage opposite the deepest water, where large vessels discharge afloat.

A colliery adjoins the works. Chalk and French cliff can be had at nominal prices. Pyrites is now largely imported into the Tyne from Ireland and Spain.

Being close to the main line of the North-Eastern Railway, a branch can be made on reasonable terms.

The works are in good repair, are intersected throughout by tramways, and are most advantageously laid out, and now enjoy the highest reputation in continental markets for the articles manufactured therein.

Altogether the above works are unique in their arrangement, situation, and business capabilities, and afford an opportunity for the lucrative employment of capital which seldom occurs.—A plan of the premises and full detailed specification of the works, and cards to view, may be had on application to Mr. JOSEPH ANDERSON, solicitor, Newcastle-upon-Tyne; or Messrs. HODGE and HARLE, solicitors, Newcastle-upon-Tyne.

VALUABLE FREEHOLD COLLIERIES AND IRON-WORKS, and 750 acres of very superior FREEHOLD LAND, divided into farms in a ring fence, in CARMARTHENSHIRE, SOUTH WALES.

MESSRS. FULLER AND HORSEY are instructed to SELL, BY AUCTION, at the Mart, London, in June next, the TRIMSARAN COLLIERIES and IRON-WORKS, with SURFACE LANDS of about 750 acres, a highly important freehold property, well deserving the attention of capitalists. Trimsaran is situate in the parish of Pembrey, in the county of Carmarthen, three miles from the Kidwelly station of the South Wales Railway, and five miles from Burry Port, a large floating dock, which will admit vessels of 500 tons register, the entrance at the dock gates being 45 ft., with 15 ft. of water at neap tides. There is a communication by canal between the collieries and the port. The surface lands occupy an area of about 750 acres, of which about 80 acres are appropriated to the works, about 120 acres WOOD LAND, and the remainder MEADOW and ARABLE LAND, in a fair state of cultivation, let to different tenants, and realising a rental of between £500 and £600 per annum, which by a small outlay and good farming might be nearly doubled.

The MINERALS extend under the entire surface, and comprise ANTHRACITE COAL, IRON ORE, and FIRE-CLAY. The Ordnance Geological Survey reports that "there is a greater thickness of coal on Trimsaran than on any other anthracite property in the kingdom. About 20 seams of coal crop out on the surface, of the aggregate thickness of 57 ft., the principal seam, known as the Big Vein, being 9 ft. in thickness. The ironstone accompanies the coal, lying between the seams, with an aggregate thickness of 102 in., a mixture of which yielded on analysis upwards of 30 per cent. of iron. A course of blackband 22 inches in thickness runs through the property. The collieries have been opened, and iron-works and a fire-brick establishment have been constructed. The mining works comprise adit levels or tunnels, pits, and slants, with various steam and hydraulic engines for pumping water and raising the minerals.

The iron-works are of more recent date, and of a superior description, comprising two well-built furnaces, capable of producing 100 tons of pig-iron weekly, with the requisite hot-blast stoves. A costly 30-in. cylinder blast engine, erected in 1846, by the Neath Abbey Company, with four boilers, spacious casting house, 74 ft. long by 30 ft. wide, with foundry crane, cupolas, core stove, and other appliances.

The fire-brick works comprise crushing rolls, worked by an overshot water-wheel, drying and tempering sheds, and kiln.

There is also a mansion house, most delightfully placed, and commanding extensive views of rich and varied scenery, stabling, pleasure grounds and kitchen garden, 28 workmen's dwellings, offices, manager's house, and other convenient buildings.

Upwards of £40,000 have been expended upon the works alone, and although operations have been suspended for some time, it would appear from a report made in 1856, by Mr. Brooke Ridgway Smith, a mining surveyor of eminence, that there would be no difficulty in supplying 1000 tons of coal daily, and that the iron is of the first quality, and sufficient to last the existing number of furnaces for 100 years; that the coal raised is anthracite, and consequently next to charcoal, the best known fuel for smelting ores. These considerations, together with the facts that Trimsaran is the nearest steam anthracite colliery to Milford Haven, a port of daily increasing importance, that there is a canal communication between the works and Burry Port, the dues on which are but 10d. per ton, and that the surface land is mostly of very superior quality, and readily sold or let, combine to strongly recommend this property to the notice of capitalists, or to any company desirous of purchasing anthracite coal and iron-works in this district.

To be viewed till the sale. Descriptive particulars may shortly be obtained of Messrs. COOPER and HODGSON, solicitors, 3, Veralam-buildings, Gray's Inn, London, W.C.; of Messrs. MAYBERY, WILLIAMS, and COBB, solicitors, Brecon; THOMAS JONES, Esq., solicitor, Llandovery; HENRY JONES EVANS, Esq., Cardiff; Mr. THOMAS HAND, land agent, Llanelly, who will show the property; at the principal inns at Swansea, Cardiff, and Gloucester; at the Auction Mart; and of Messrs. FULLER and HORSEY, auctioneers, Billiter-street, London, E.C.

ROBERT MUSHET'S CAST-STEEL.

TO CONTINENTAL AND FOREIGN GOVERNMENTS, AND CAPITALI

ROBERT MUSHET, of COLEFORD, GLOUCESTERSH having INVENTED and PERFECTED, on the scale of manufacture, SEV METHODS for the PRODUCTION of the BEST CAST-STEEL, at a cost far lower has heretofore been accomplished, and from such materials as are cheap, abundan accessible in almost all countries, and now OFFERS these UNPATENTED PROCE FOR SALE, upon terms hereafter to be arranged with such parties as may be di to treat for them. The processes are as under:—

1. The MANUFACTURE of CAST-STEEL direct from the ORE, at a prime c £12 per ton in the ingot, and of first-rate quality.

2. The MANUFACTURE of CAST-STEEL direct from DEOXIDIZED IRON O at a cost of from £12 to £15 per ton of ingots. The quality of this steel, when from ore carefully selected, is far superior to that at present manufactured from th pensive bar-iron of Sweden and Russia.

3. The MANUFACTURE of CAST-STEEL from ANY KIND of BAR-IRON, ST or SCRAP IRON, whether COKE or CHARCOAL IRON, so that a first-rate quali obtained from ordinary charcoal iron, and good serviceable cast-steel is prepared fro cheapest scrap or bar-iron, at a cost of from £12 to £16 per ton.

4. The MANUFACTURE of CAST-STEEL from PIG-IRON and IRON ORE, to ensure the production of good cast-steel from coke pig-iron of average quality first-rate cast-steel from charcoal pig-iron, at one melting, and without injury melting-pots, for £10 to £15 per ton.

Parties who may be disposed to treat for any of these inventions, and who agree the terms which may be proposed, will also, if they require it, be taught and ful structed in the routine for producing cast-steel upon the scale of manufacture,—su the construction of the furnaces, pot mixtures, method of making the pots, ma them, &c., heating and drawing out of the ingots, &c.; and they may have thei workmen fully instructed in such routine.

In all the foregoing processes there is no departure required from the ordinary s of melting cast-steel, as now practised in Sheffield and elsewhere.

Parties desiring proofs may bring their own materials to be melted into steel, in to be convinced that the advertiser has advanced nothing but what he can carry the fullest extent.

References—Messrs. BROMAGE, SNEAD, and GOSLING, Bankers, Monmouth.
THOMAS GRATREX, Esq., Banker, Newport, Monmouthshire.

TREASURY UNITED MINES, CROWAN, CORNWAL

TO BE SOLD, BY PUBLIC AUCTION, on the MINES, on Wednesday, May proximo, at noon, the WHOLE of the ENGINES and MATERIALS on th MINES, in One Lot, consisting of ONE 80 in. cylinder PUMPING ENGINE, stroke, equal beam, with two boilers about 22 tons; one 22 in. whim engine, wi boiler about 7 tons; one 12-arm capstan, with cast-iron centre piece; shears 60 ft. and a 14 in. capstan-rope; one balance-bob, complete; three 20 in., and 54 19 and cast-iron pumps, together with suitable H and doorpieces, windbores, plunger-poles 62 fms. 14 in. main rods, with strapping-plates, bolts, &c., complete; about 70 to Norway, balk, and a variety of other articles.

For viewing the same, application may be made to Capt. WILLIAM ROSEWARNE, mine, who will furnish an inventory of the articles for sale.—Dated April 21, 185

SOUTH WALES.—Mr. ARTHUR O. DAVIES, of Dowla authorised to TREAT for the SALE of TWO VERY VALUABLE GOING LIERIES in South Wales.

Also, TO LET, an EXTENTIVE TRACT of STEAM COAL, on a long lease, at derate royalty, with a railway running through the property.

For terms, apply as above.

SUPERIOR ENGINEERING FACTORY, LONDO

In consequence of the DEATH of JOHN SEAWARD, Esq., engineer, PRINC PARTNER in the CANAL IRONWORKS, POPLAR, an opportunity, seldom to b with, presents itself for the PURCHASE of the WHOLE of these extensive WORK

This establishment, unsurpassed by any other in its convenience for the product engines and machinery of the first magnitude, and which has for the last thirty been constantly employed in the execution of numerous orders for the English a foreign governments, the Hon. East India Company, and the commercial world home and abroad, may, under existing circumstances, be had on very advantageous

These premises, so well known that they need no detailed description, will, u spirited and liberal management, ever command the orders of the different power companies that may require machinery executed with care and dispatch. For the mation, however, of those who may be unacquainted with these works, it may wit tice be said that they possess in point of situation, extent of river frontage, and de water at the wharf, advantages superior to any other establishment in London.

The boiler factory, which has also a very extensive river frontage, is entirely de from the engine factory. Within the last few years it has been laid out with lofty shops, and furnished with steam-engines, furnaces, shearing, punching, plate r steam riveting machines, &c., of the most modern description. It offers abundant for the construction of small vessels; and, with the various large blacksmiths and smiths' shops and stores, excellently equipped, possesses in itself every arrangeme sirable for a first-class business.—Apply, by letter, to JAMES FURRELL, Esq., so 38, Dowgate-hill, City.

CAMBRIAN FOUNDRY, ABERYSTWITH, CARDIGANSH

—ON SALE, an excellent NEW 26 in. CRUSHER, complete; also, a CRUSHER, nearly complete; and several LIFTS OF PUMPS.

N.B. All kinds of CASTINGS, SMITHS' and BRASS WORK MADE, for m and other purposes, on the shortest notice, and at reasonable charges. STEEL, IRON, CHAIN, and OTHER MATERIALS.

SCREW, BOLT, and BOILERS MADE.

Plans and estimates forwarded, on application, for water-wheels, steam-engines, Address, GEO. GREEN, Cambrian Foundry, Aberystwith.

TO MINERS AND OTHERS.—TO BE SOLD, a great barga NEW WATER-WHEEL, 50 ft. by 6 ft. 6 in. breast, with cast-iron rings, stools, crank, and oak plummer blocks.

SIX STAMPS, and cast-iron axle, with lifters, tongues, cambs and frame, com also, tooth and pinion wheels, to connect it with other machinery, if required.

BERDAN'S GOLD EXTRACTING MACHINES, suitable for pulverising min other substances, or for general purposes of grinding; new and complete, with d gear, four large iron basins or pans (48 cwts. each), four large iron balls (45 cwts. and four smaller balls (16 cwts. each). The whole now on the Dampfyde Mine North Molton, Devon, eleven miles from Barnstaple.

Applications to be addressed to CHAS. HAND, 52, Castle-street, Liverpool.

TO BE SOLD, by PRIVATE TREATY, the UNEXPIRED TE

of LEASE of certain extensive and valuable LEAD MINES, situated betwe town of Newtownards and Bangor, in the county of Down, Ireland, and called the N TOWNARDS MINES; together with the MACHINERY, TOOLS, IMPLEME STORES, and MATERIALS, thereto belonging; including FIVE STEAM-ENGI EXCELLENT CRUSHING MILLS, and every requisite convenience for carrying extensive business. These mines have already yielded in profits £85,000 and up and are still working at a profit. It is now requisite to open out new ground, of there is a large extent unexplored: from the nature of the Deed of Association, th rectors are unable to make calls upon the shareholders, and it has been determin dispose of the mine.

The LEASE, which comprises the whole townland of White Spots, is held for th of a healthy young man, 19 years of age, together with an unexpired term of six from the 1st Nov. inst. The works are conveniently situated within a few miles the port of Bangor, where the mining company have a store.

A few spirited adventurers, willing to embark a moderate capital, will find this favourable opportunity, offering fair and reasonable prospects of success.

Terms and particulars may be known upon application to W. BECKWITH, Esq., I ias, Isle of Man; or Mr. H. B. NOBLE, Secretary of the Newtownards Mining Com Douglas.—April 7, 1858.

FOREST OF DEAN, GLOUCESTERSHIRE.

THE ARTHUR AND EDWARD COLLIERY, at LYDBRO with all the valuable PLANT and MACHINERY, and STOCK of FIRE-C of immense extent.—TO BE DISPOSED OF, an extensive and important COLLI lately working the celebrated High Delf Vein of Coal, extending to 180 acres, and which a very considerable outlay has been made in the erection of buildings, wit most complete steam-engines, plant, and machinery. The underground working very extensive, erected in stone, and the arrangements are most complete for wo 200 tons a day, and carrying on the colliery most successfully, the small coal being in request for patent fuel, and a most valuable stock of fire-clay on the bank.—To apply to Mr. SMITH, at the works; and for further particulars and terms, to Mr. H WILLIAMS, 61, Moorgate-street; or to Mr. ROBINS, Piazza, Covent-garden, London.

COLLIERY PLANT FOR SALE, consisting of a SET of PU TREES, 30 yards long, 10 in. diam., including deliverer, bucket and clack working-barrel, and snorer; also, STRONG L-LEG, with spears, bucket, clack, match; STRONG DOUBLE PURCHASE CAPSTAN, equal to 5 tons; TI WROUGHT-IRON DOUBLE ENDED CONNECTING RODS, 14 ft. by 3¼ diam with carrier to match; 4-stranded FLAT ROPE, 80 yards long (second-hand); S ING SLIDE PIPE, with stuffing-box for 14 in. lift.—Apply to EDWARD BROOKE, Fieldhouse, Huddersfield.

VALUABLE IRONWORKS FOR SALE.—FOR SALE, PRIVATE BARGAIN, the NEW CUMNOCK IRONWORKS, situate in shire, consisting of THREE BLAST FURNACES, with powerful ENGINES, a MACHINERY of the most improved construction. Minerals (superior coal and b band ironstone of excellent quality have recently been discovered) are in the imme neighbourhood, and where not already attached, may be available on favourable te

Full particulars may be obtained from HAMILTON ROSE, Esq., writer, Cumn Messrs. BANNATYNES and KIRKWOOD, writers, Glasgow; WALTER MACKENZIE, accountant, Glasgow; or JOHN GEDDES, Esq., mining engineer, Edinburgh.

March 31, 1858.

IRONWORKS FOR SALE.—TO BE SOLD, BY PRIVA CONTRACT, the BEDLINGTON IRONWORKS, situated at Bedlington, o River Blyth, and adjoining the Blyth and Tyne Railway, with a branch. The w consist of TWO powerful ENGINES, of 110 and 100-horse power, drawing, three fi ing, two puddling, and one plate mills, with two squeezers and shears attached. are 30 puddling and 11 heating furnaces; also, one engine for large plate shears, small pumping engine and donkey, and a good 25-horse power engine for working a use forge, with two heating furnaces. The works are capable of making from 200 to tons of finished iron per week.

The advantages connected with these works are their being situated in a large co strict; also, their being connected with the Blyth and Tyne Railway, where goods c shipped either at the Haystole Docks, on the Tyne, and sent to any part of the kin by rail, or at Blyth, at a very small cost, where also the raw material can be deli ex ship. The works could be ready for immediate operation at a very small cost.

There is attached to the works a mansion-house, manager's house, offices, and s cottages; also, a first-rate dam, and a large reservoir of water, capable of driving a w wheel of 100-horse power.

For further particulars, apply to Mr. GIBB, at the works; to Mr. JOSEPH TAY Newcastle-on-Tyne; or to Messrs. LACE, MARSHALL, and GILL, solicitors, Liverpool

ASPHALTE OR PITCH, 4s. per ton; TAR OIL, 2d. per gal COMPOSITION to PREVENT RUST in STEAM-BOILERS, 10d. per gallon JNO. METCALF'S, Miles Flatting Chemical Works, Manchester.